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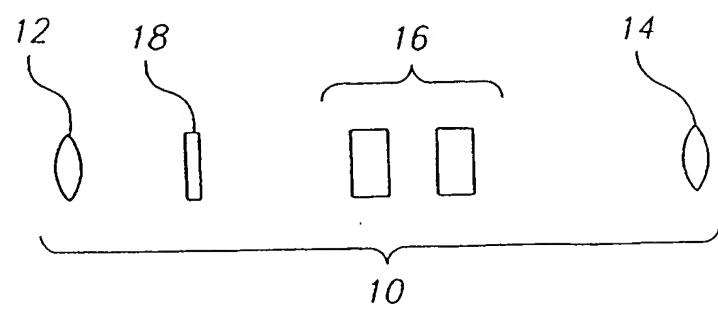
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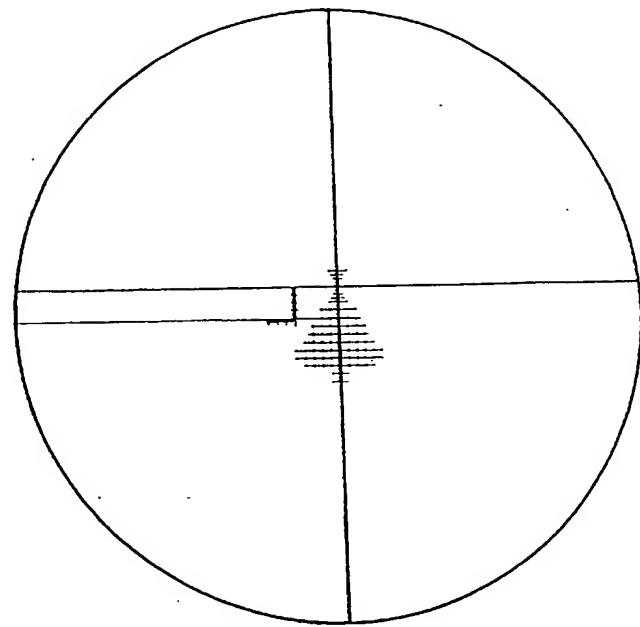
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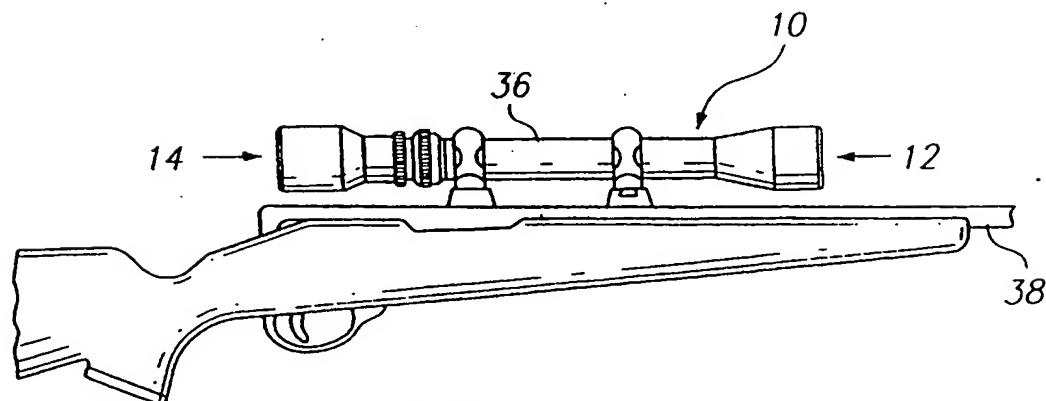
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**FIG. 1**



**FIG. 3**



**FIG. 4**

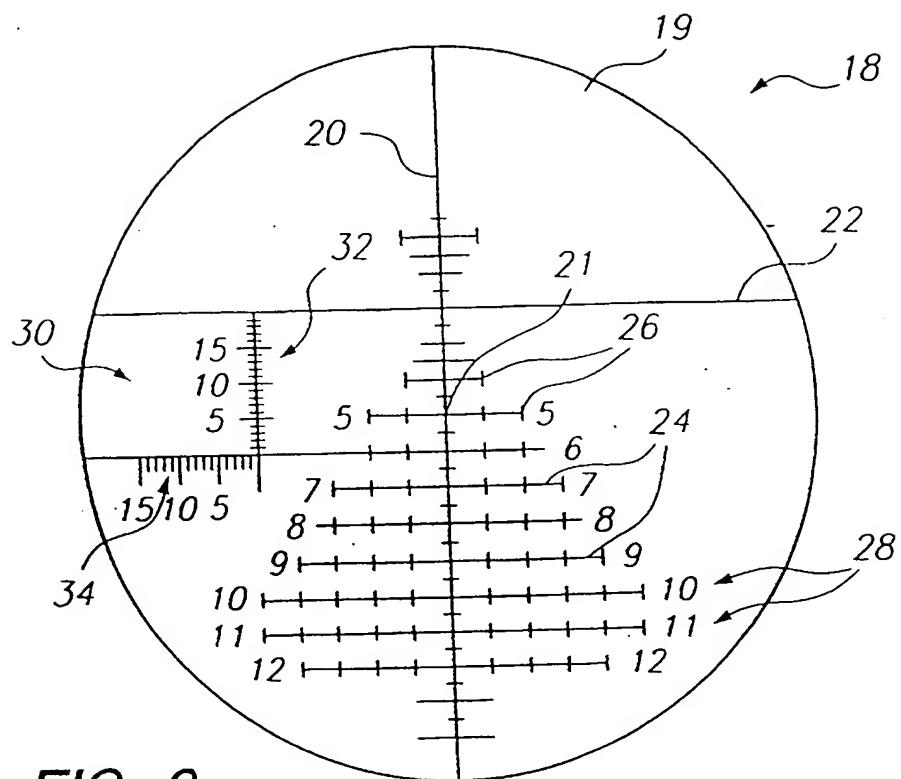


FIG. 2

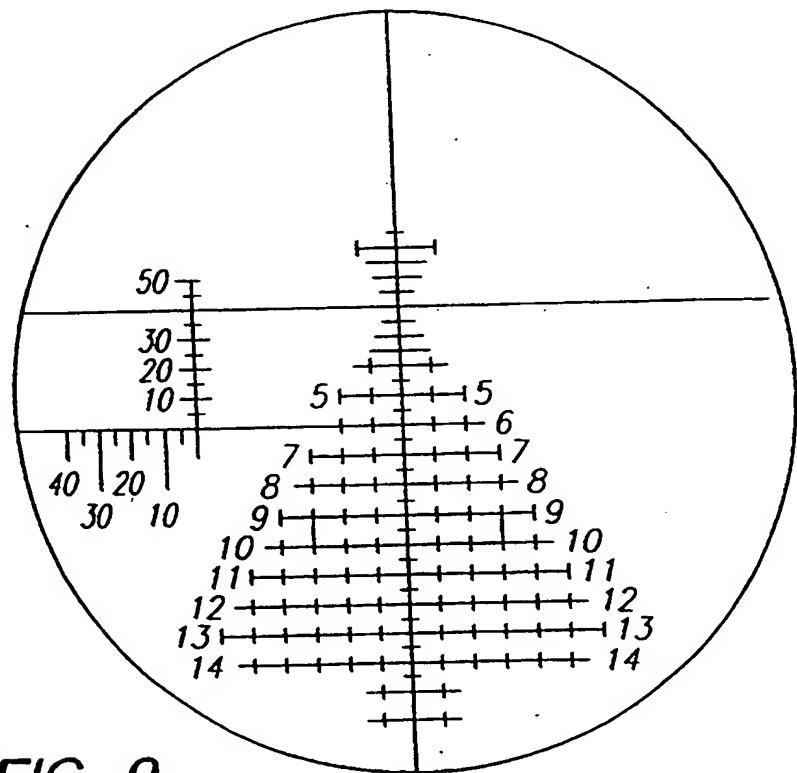


FIG. 9

Sights on at 500 yards. Sights are 3.00 inches above bore.  
 Angle of Departure = 0.21 deg. (Firing angle = 0 deg.)

| Range (yds) | 50    | 100   | 150   | 200   | 250    | 300    | 350    | 400    | 450    | 500    |
|-------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| Traj. (in.) | 3.3   | 8.3   | 12.2  | 14.8  | 16.1   | 16.0   | 14.4   | 11.2   | 6.5    | 0.0    |
| Traj. (MOA) | 6.2   | 8.0   | 7.8   | 7.1   | 6.2    | 5.1    | 3.9    | 2.7    | 1.4    | 0.0    |
| Range (yds) | 550   | 600   | 650   | 700   | 750    | 800    | 850    | 900    | 900    | 1000   |
| Traj. (in.) | -8.2  | -18.4 | -30.5 | -44.6 | -61.0  | -79.7  | -101   | -124   | -151   | -180   |
| Traj. (MOA) | -1.4  | -2.9  | -4.5  | -6.1  | -7.8   | -9.5   | -11.3  | -13.2  | -15.1  | -17.2  |
| Range (yds) | 1050  | 1100  | 1150  | 1200  | 1250   | 1300   | 1350   | 1400   | 1450   | 1500   |
| Traj. (in.) | -212  | -247  | -286  | -328  | -374   | -424   | -477   | -535   | -598   | -665   |
| Traj. (MOA) | -19.3 | -21.5 | -23.7 | -26.1 | -28.6  | -31.1  | -33.8  | -36.5  | -39.4  | -42.4  |
| Range (yds) | 1550  | 1600  | 1650  | 1700  | 1750   | 1800   | 1850   | 1900   | 1950   | 2000   |
| Traj. (in.) | -738  | -816  | -899  | -989  | -1085  | -1187  | -1295  | -1411  | -1533  | -1662  |
| Traj. (MOA) | -45.5 | -48.7 | -52.1 | -55.6 | -59.2  | -63.0  | -66.9  | -70.9  | -75.1  | -79.4  |
| Range (yds) | 2050  | 2100  | 2150  | 2200  | 2250   | 2300   | 2350   | 2400   | 2450   | 2500   |
| Traj. (in.) | -1799 | -1942 | -2093 | -2252 | -2418  | -2592  | -2774  | -2965  | -3163  | -3370  |
| Traj. (MOA) | -83.8 | -88.3 | -93.0 | -97.8 | -102.6 | -107.6 | -112.8 | -118.0 | -123.3 | -128.7 |

FIG. 5

CALIBER \_\_\_\_\_ BULLET \_\_\_\_\_  
 TYPE OF BULLET \_\_\_\_\_  
 BULLET WEIGHT \_\_\_\_\_  
 EFFECTIVE BAL COEFF \_\_\_\_\_  
 BAL. COEFF A STP \_\_\_\_\_  
 COEFFICIENT OF FORM \_\_\_\_\_  
 ALTITUDE \_\_\_\_\_  
 TEMPERATURE \_\_\_\_\_  
 ATMOSPHERIC PRESSURE \_\_\_\_\_

WORKSHEET

DATE \_\_\_\_\_  
 NOTES \_\_\_\_\_

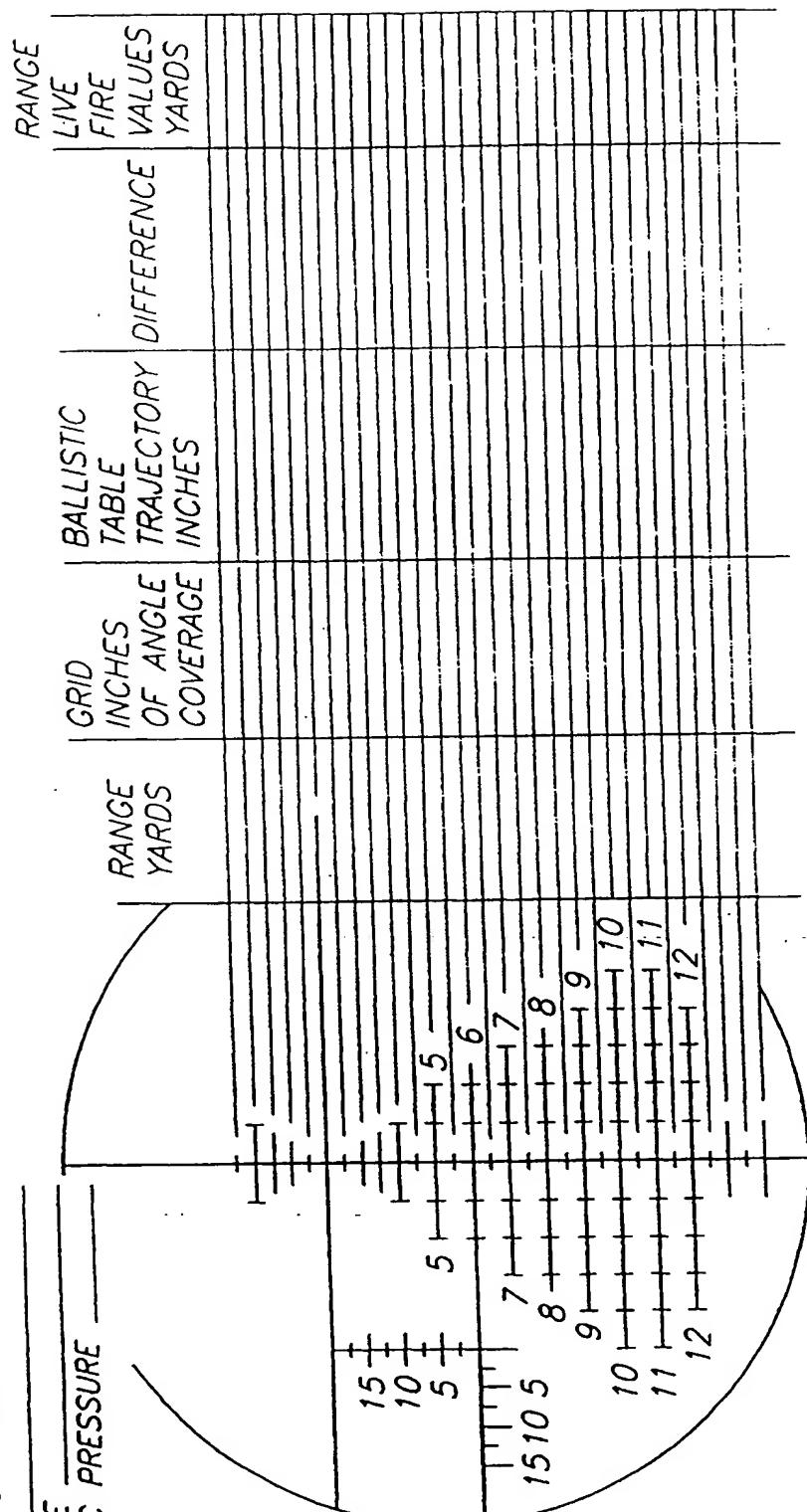


FIG. 6

CALIBER .50 Cal BMG  
 TYPE OF BULLET 750gr AMAX MATCH  
 BULLET WEIGHT 750gr  
 EFFECTIVE BAL COEFF 0.750  
 BAL. COEFF A STP 0.750  
 COEFFICIENT OF FORM 0.571  
 ALTITUDE 60.0F  
 TEMPERATURE 60.0F  
 ATMOSPHERIC PRESSURE 30.0 IN.

WORKSHEET

DATE \_\_\_\_\_  
NOTES \_\_\_\_\_

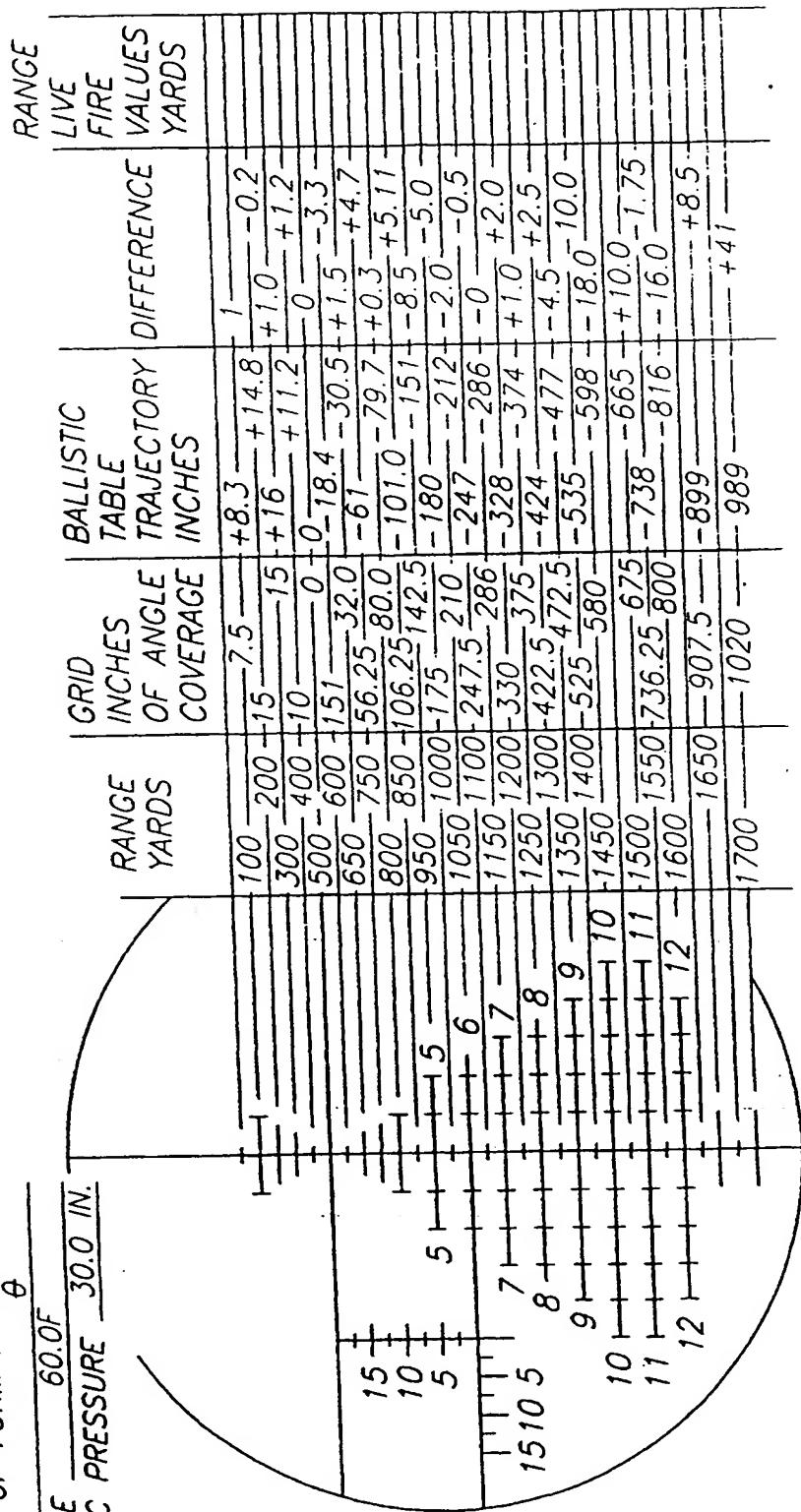


FIG. 7

**FIG. 8A**

Hunting Shock 750 Gr AMAX Match .50 BMG  
(Calculated using Ingalls' table)

|                            |             |                           |        |
|----------------------------|-------------|---------------------------|--------|
| Bullet Weight .....        | 750 grains  | Bullet Caliber .....      | .500   |
| Sectional Density .....    | 0.429       | Coefficient of Form ..... | 0.571  |
| Effective Bal. Coeff ..... | 0.750       | Bal. Coeff at STP .....   | 0.750  |
| Cross wind .....           | 10.0 m.p.h. | Altitude .....            | 0 ft.  |
| Atmospheric pressure ..... | 30.00 in.   | Temperature .....         | 60.0 F |

| Range<br>yards | Velocity<br>f.p.s. | Energy<br>ft-lb. | Momentum<br>lb.-sec. | Mx. Ord.<br>in. | Drop<br>in. | Lead<br>in./mph | Time<br>sec. |
|----------------|--------------------|------------------|----------------------|-----------------|-------------|-----------------|--------------|
| 0              | 2800               | 13054.6          | 9.3247               | 0.0             | 0.0         | 0.0             | 0.000        |
| 50             | 2736               | 12468.5          | 9.1130               | 0.1             | 0.6         | 1.0             | 0.054        |
| 100            | 2674               | 11903.1          | 8.9040               | 0.6             | 0.4         | 2.3             | 0.110        |
| 150            | 2612               | 11357.7          | 8.6976               | 1.3             | 1.0         | 5.2             | 0.166        |
| 200            | 2551               | 10833.0          | 8.4943               | 2.4             | 1.8         | 9.4             | 0.225        |
| 250            | 2491               | 10329.2          | 8.2945               | 3.9             | 2.8         | 15.0            | 0.284        |
| 300            | 2432               | 9845.5           | 8.0979               | 5.7             | 4.1         | 21.9            | 0.345        |
| 350            | 2374               | 9381.1           | 7.9046               | 8.0             | 5.7         | 30.4            | 0.407        |
| 400            | 2317               | 8935.5           | 7.7146               | 10.7            | 7.5         | 40.3            | 0.471        |
| 450            | 2260               | 8508.0           | 7.5278               | 13.9            | 9.6         | 51.9            | 0.537        |
| 500            | 2205               | 8098.0           | 7.3442               | 17.6            | 12.0        | 65.2            | 0.604        |
| 550            | 2151               | 7705.0           | 7.1637               | 21.8            | 14.7        | 80.2            | 0.673        |
| 600            | 2098               | 7328.3           | 6.9864               | 26.7            | 17.7        | 97.2            | 0.744        |
| 650            | 2046               | 6967.3           | 6.8122               | 32.1            | 21.1        | 116.1           | 0.816        |
| 700            | 1994               | 6621.6           | 6.6410               | 38.2            | 24.7        | 137.1           | 0.890        |
| 750            | 1944               | 6290.6           | 6.4729               | 45.1            | 28.7        | 160.3           | 0.966        |
| 800            | 1894               | 5973.7           | 6.3078               | 52.7            | 33.0        | 185.7           | 1.045        |
| 850            | 1845               | 5670.5           | 6.1456               | 61.2            | 37.7        | 213.6           | 1.125        |
| 900            | 1798               | 5380.5           | 5.9864               | 70.5            | 42.8        | 244.1           | 1.207        |
| 950            | 1751               | 5104.6           | 5.8309               | 80.7            | 48.2        | 277.2           | 1.292        |
| 1000           | 1705               | 4842.8           | 5.6794               | 92.0            | 54.1        | 313.2           | 1.379        |
| 1050           | 1661               | 4594.5           | 5.5319               | 104.4           | 60.3        | 352.2           | 1.468        |

**FIG. 8A****FIG. 8B****FIG. 8**

|      |      |        |        |        |       |        |      |       |
|------|------|--------|--------|--------|-------|--------|------|-------|
| 1100 | 1618 | 4358.9 | 5.3882 | 117.9  | 67.0  | 394.3  | 27.4 | 1.559 |
| 1150 | 1576 | 4135.4 | 5.2482 | 132.6  | 74.1  | 439.7  | 29.1 | 1.653 |
| 1200 | 1535 | 3923.3 | 5.1119 | 148.6  | 81.7  | 488.7  | 30.8 | 1.750 |
| 1250 | 1495 | 3722.1 | 4.9791 | 166.1  | 89.7  | 541.3  | 32.5 | 1.849 |
| 1300 | 1456 | 3531.3 | 4.8498 | 185.0  | 98.1  | 597.8  | 34.3 | 1.950 |
| 1350 | 1418 | 3350.2 | 4.7238 | 205.4  | 107.1 | 658.3  | 36.2 | 2.055 |
| 1400 | 1382 | 3178.4 | 4.6011 | 227.6  | 116.5 | 723.2  | 38.0 | 2.162 |
| 1450 | 1346 | 3016.8 | 4.4826 | 251.5  | 126.4 | 792.6  | 40.0 | 2.272 |
| 1500 | 1312 | 2867.1 | 4.3700 | 277.4  | 136.9 | 866.9  | 42.0 | 2.385 |
| 1550 | 1280 | 2728.4 | 4.2629 | 305.4  | 147.8 | 946.3  | 44.0 | 2.500 |
| 1600 | 1249 | 2599.4 | 4.1610 | 335.5  | 159.3 | 1031.1 | 46.1 | 2.619 |
| 1650 | 1220 | 2479.7 | 4.0640 | 367.9  | 171.2 | 1121.4 | 48.2 | 2.741 |
| 1700 | 1193 | 2371.7 | 3.9745 | 402.8  | 183.7 | 1217.7 | 50.4 | 2.865 |
| 1750 | 1169 | 2274.7 | 3.8924 | 440.2  | 196.6 | 1320.3 | 52.7 | 2.992 |
| 1800 | 1146 | 2187.0 | 3.8166 | 480.5  | 210.0 | 1429.2 | 54.9 | 3.122 |
| 1850 | 1125 | 2107.4 | 3.7465 | 523.7  | 223.8 | 1544.7 | 57.3 | 3.254 |
| 1900 | 1105 | 2034.6 | 3.6812 | 569.8  | 238.1 | 1666.9 | 59.6 | 3.388 |
| 1950 | 1087 | 1967.8 | 3.6203 | 618.7  | 252.7 | 1795.9 | 62.0 | 3.525 |
| 2000 | 1070 | 1906.2 | 3.5632 | 670.5  | 267.8 | 1931.9 | 64.5 | 3.664 |
| 2050 | 1054 | 1849.2 | 3.5095 | 725.3  | 283.2 | 2075.0 | 67.0 | 3.805 |
| 2100 | 1039 | 1796.3 | 3.4590 | 783.0  | 299.0 | 2225.5 | 69.5 | 3.949 |
| 2150 | 1024 | 1747.1 | 3.4112 | 843.8  | 315.2 | 2383.3 | 72.1 | 4.094 |
| 2200 | 1011 | 1701.0 | 3.3660 | 907.7  | 331.7 | 2548.7 | 74.7 | 4.242 |
| 2250 | 998  | 1657.9 | 3.3231 | 974.8  | 348.6 | 2721.9 | 77.3 | 4.391 |
| 2300 | 986  | 1617.5 | 3.2822 | 1045.0 | 365.8 | 2902.8 | 79.9 | 4.542 |
| 2350 | 974  | 1579.4 | 3.2433 | 1118.4 | 383.3 | 3091.8 | 82.6 | 4.695 |
| 2400 | 963  | 1543.4 | 3.2062 | 1195.0 | 401.2 | 3289.0 | 85.4 | 4.850 |
| 2450 | 952  | 1508.7 | 3.1699 | 1274.8 | 419.3 | 3494.2 | 88.1 | 5.007 |

FIG. 8B

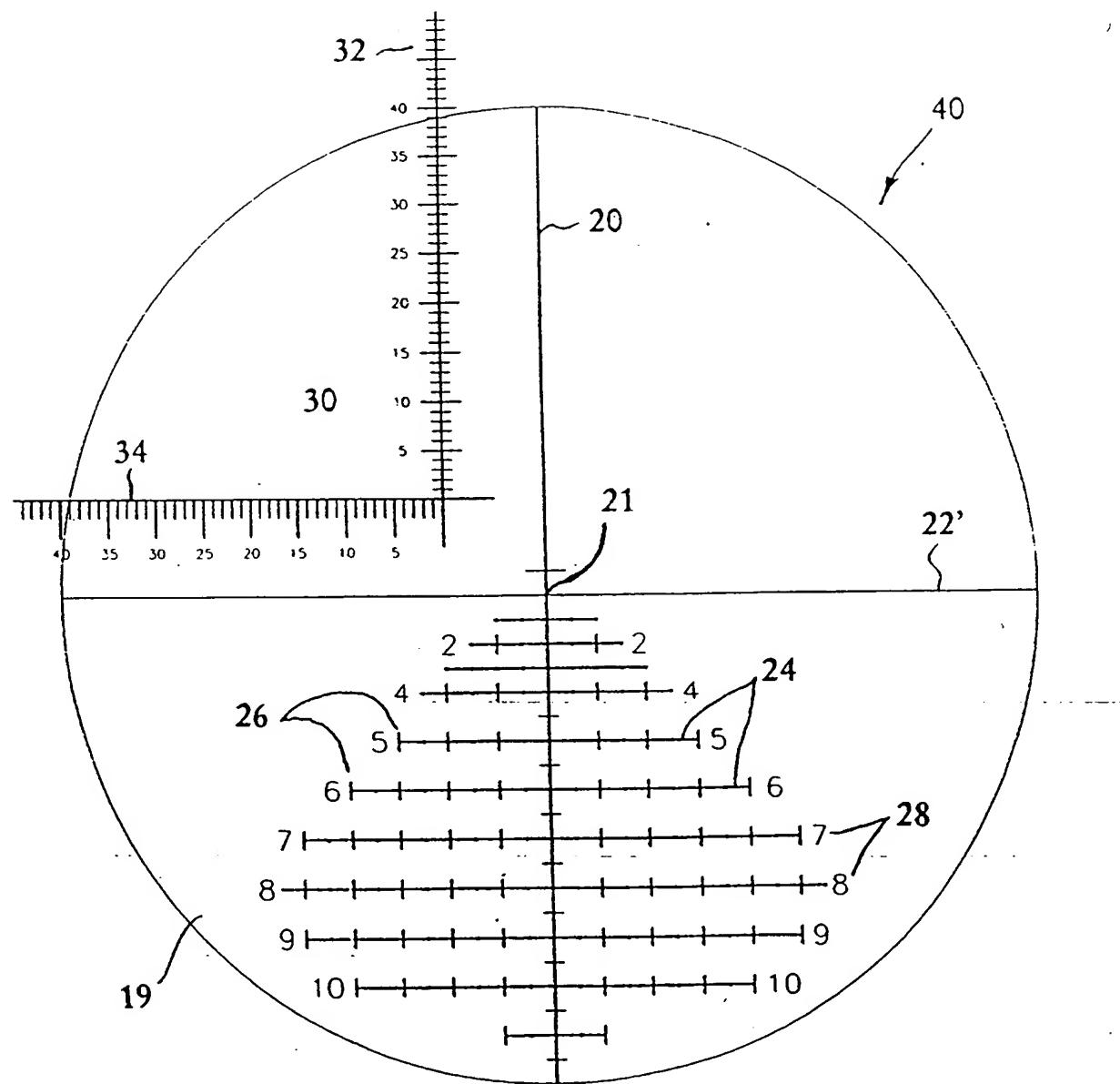


Fig. 10

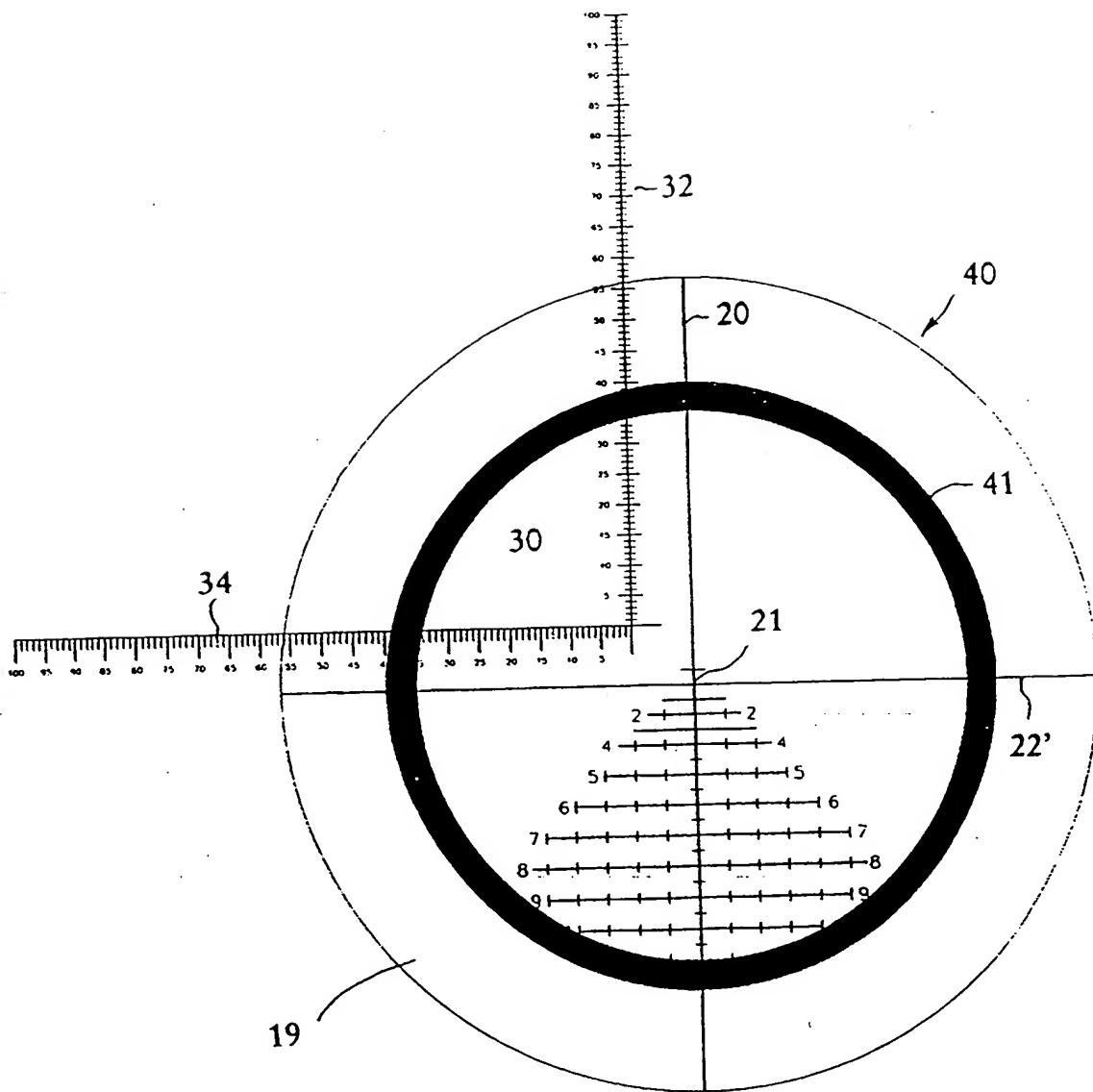


Fig. 11

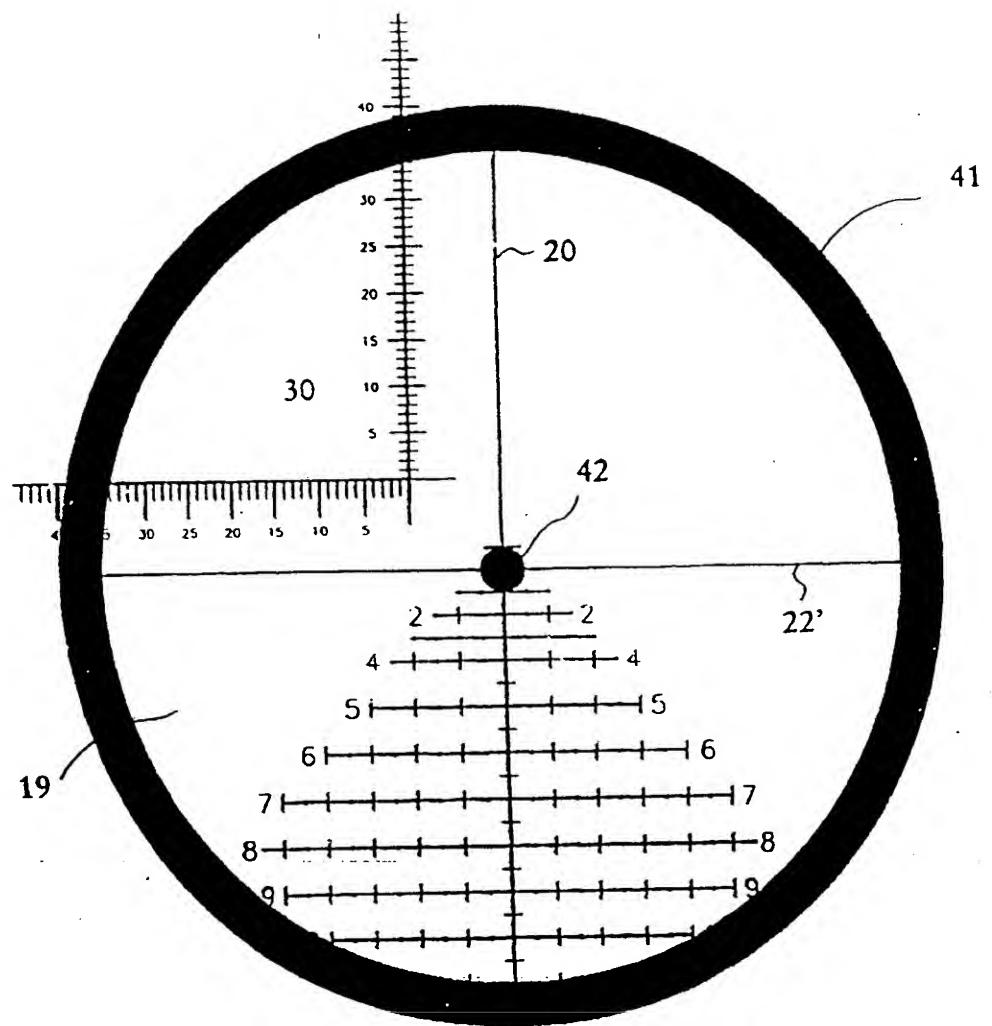


Fig. 12

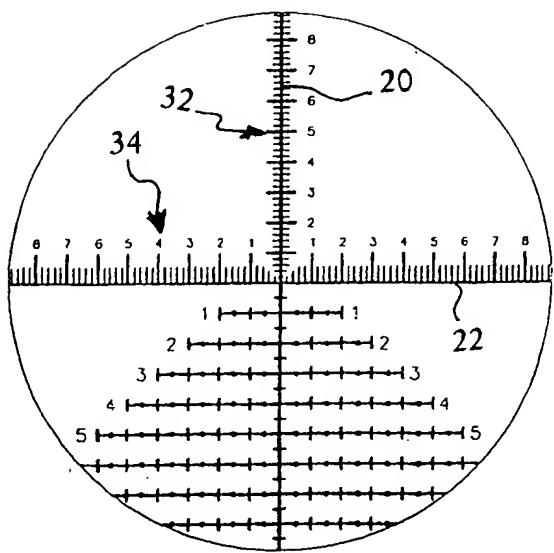


FIG 13

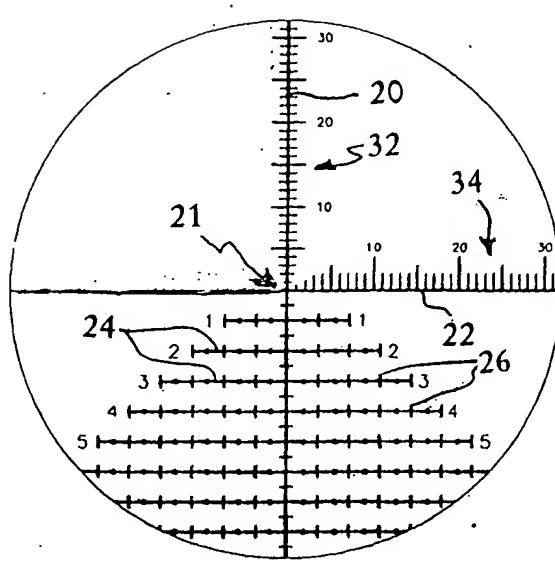


FIG 14

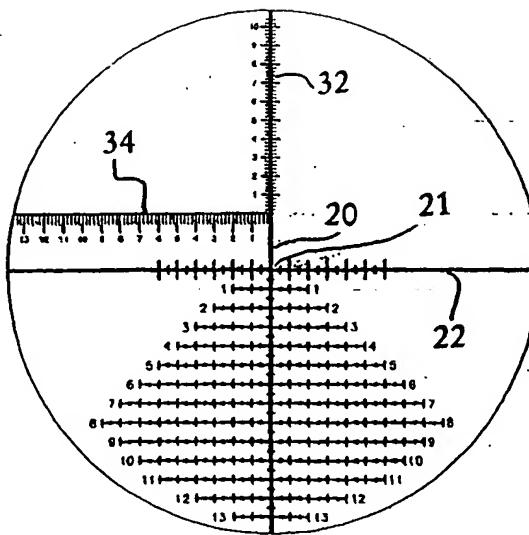


FIG 15

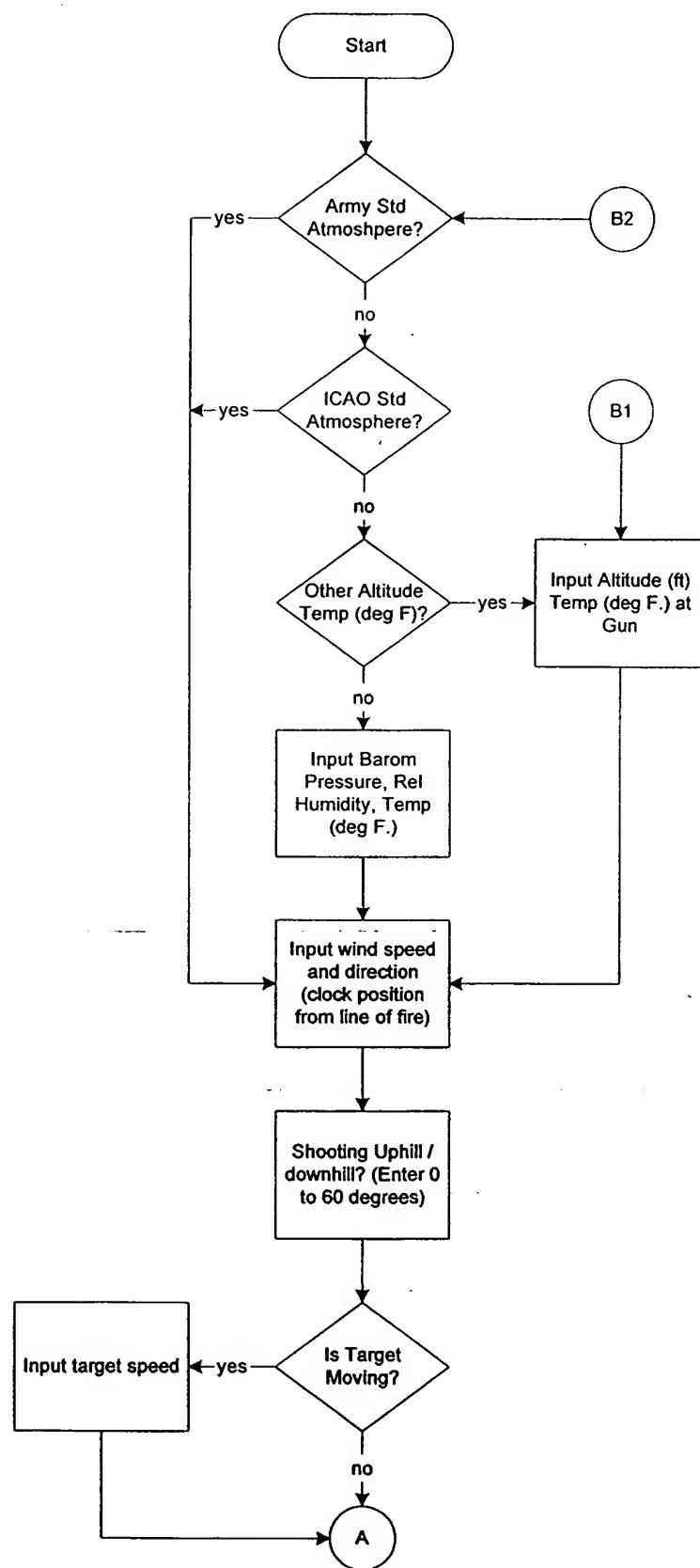
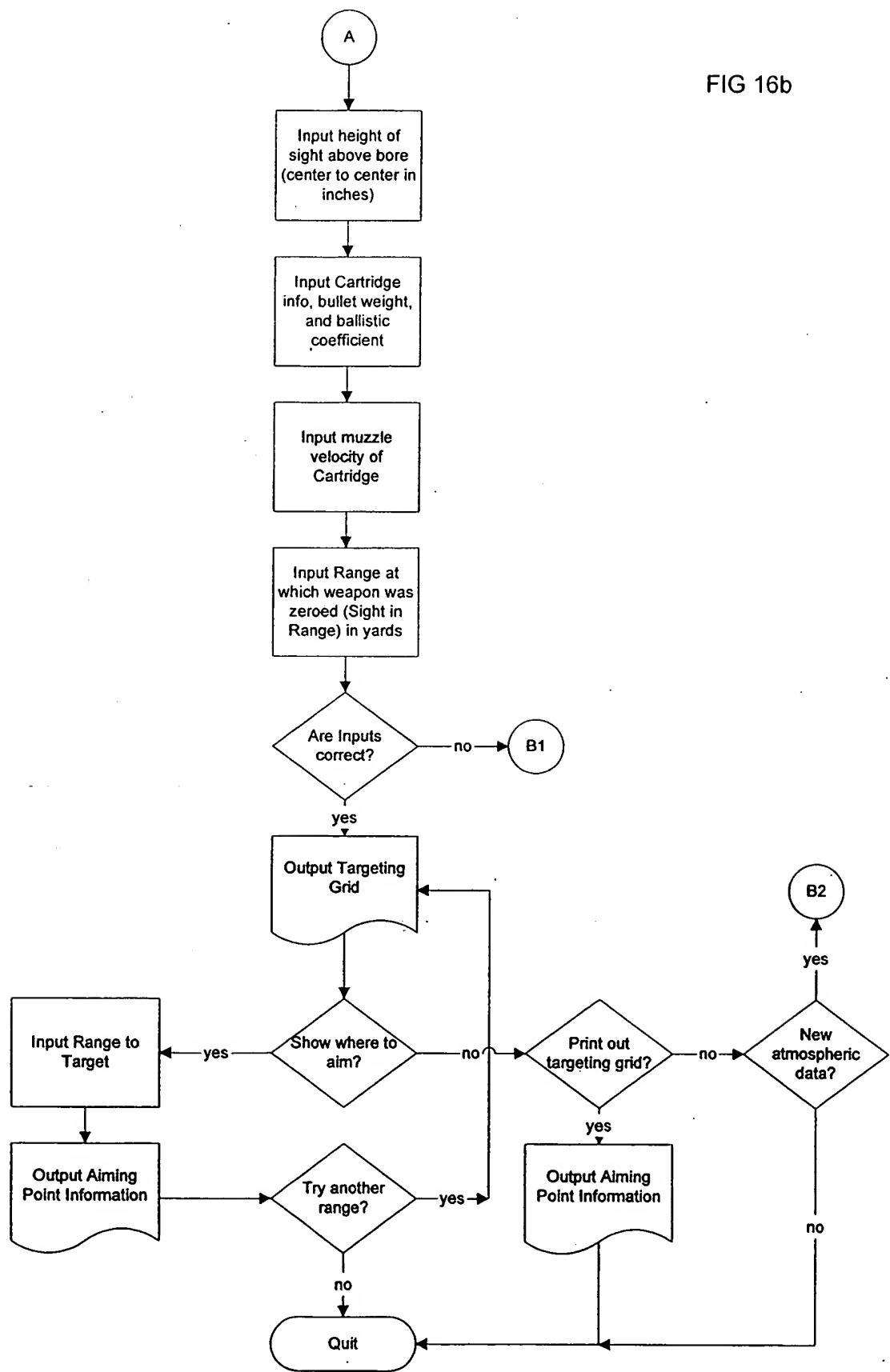


FIG 16a

FIG 16b



| Targeting Grid  
Formatted in Mils

.300 Win Mag Federal Gold  
Medal

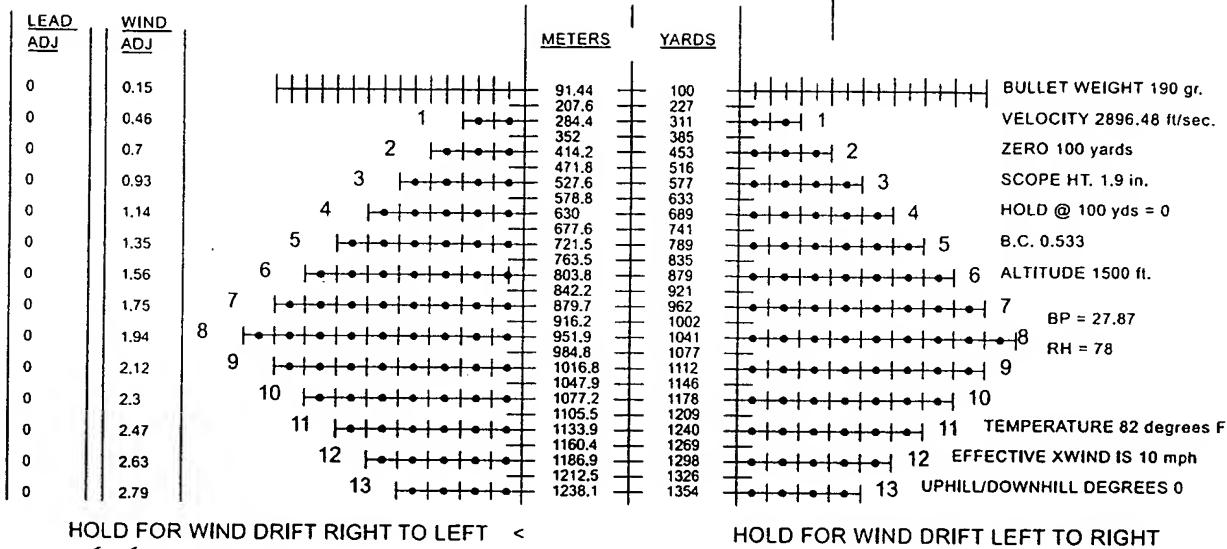


FIG. 17A

| Targeting Grid  
Formatted in Mils

.300 Win Mag Federal Gold  
Medal

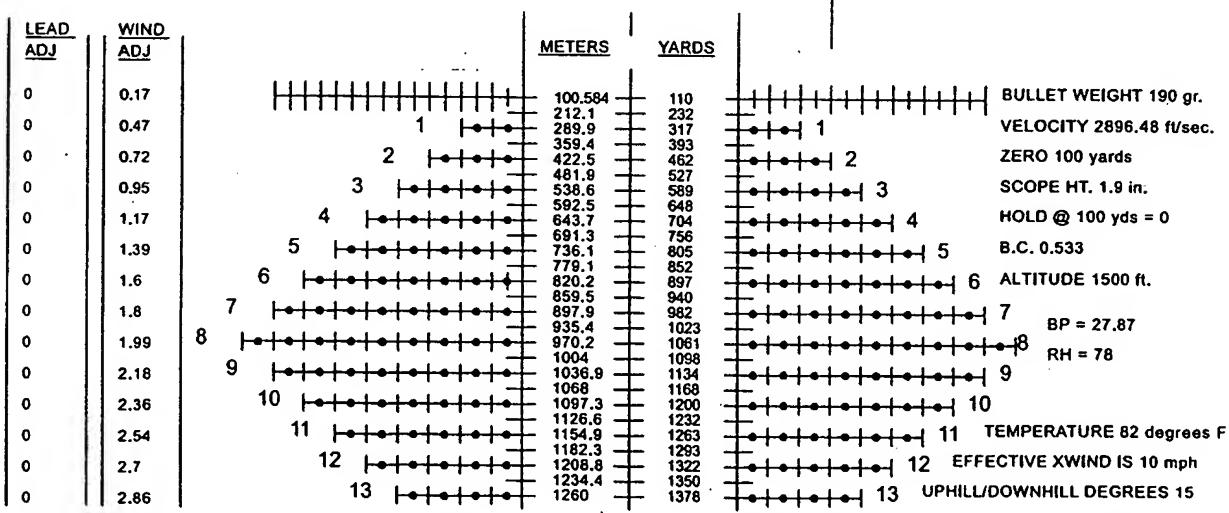


FIG. 17B

Targeting Grid  
Formatted in Mils

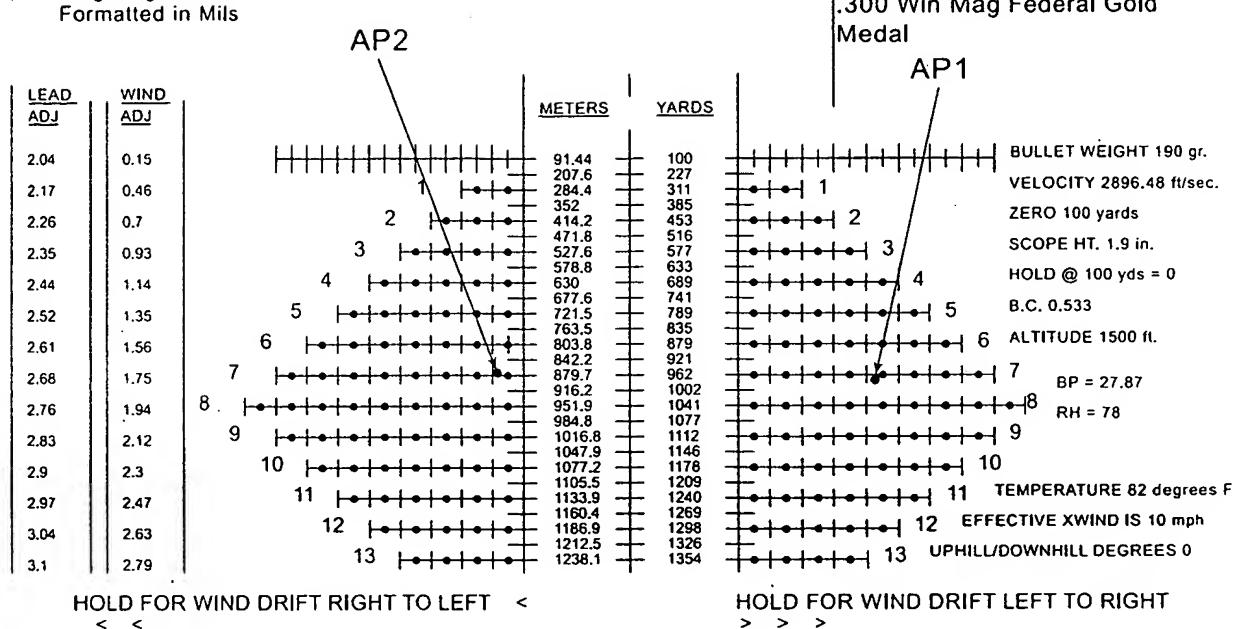


FIG. 17C

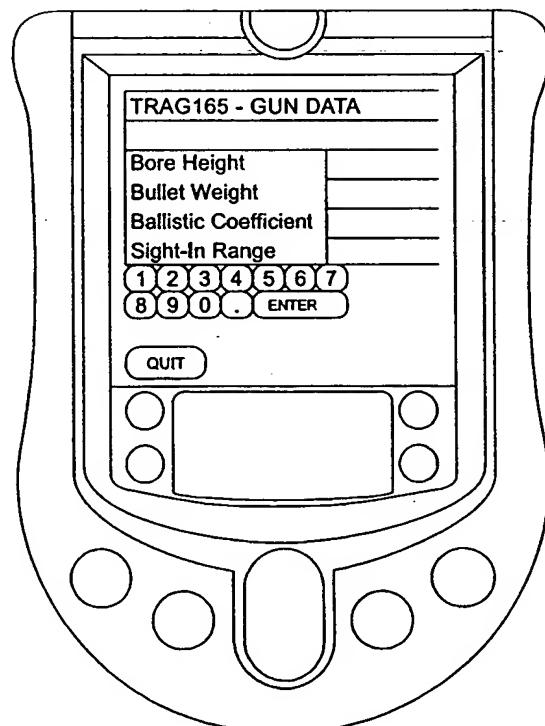


FIG. 18A

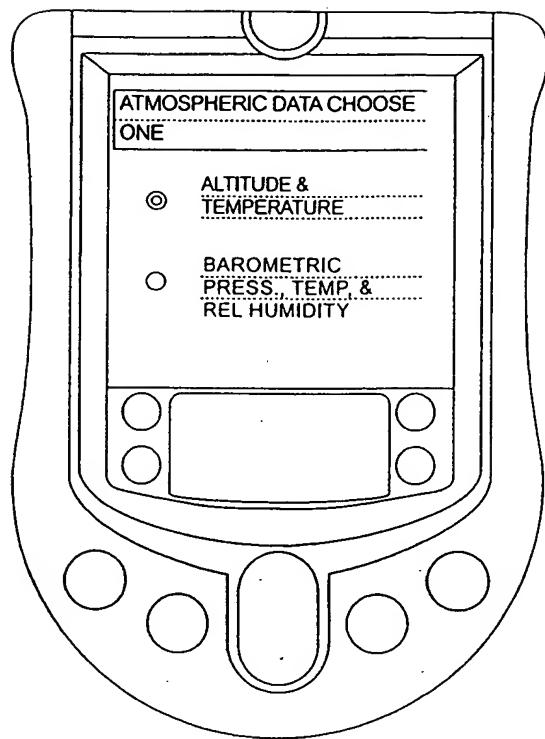


FIG. 18B

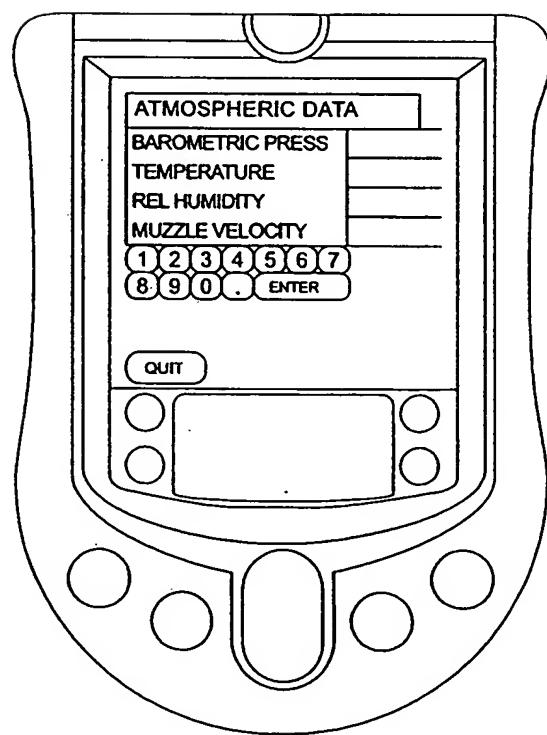


FIG. 18C

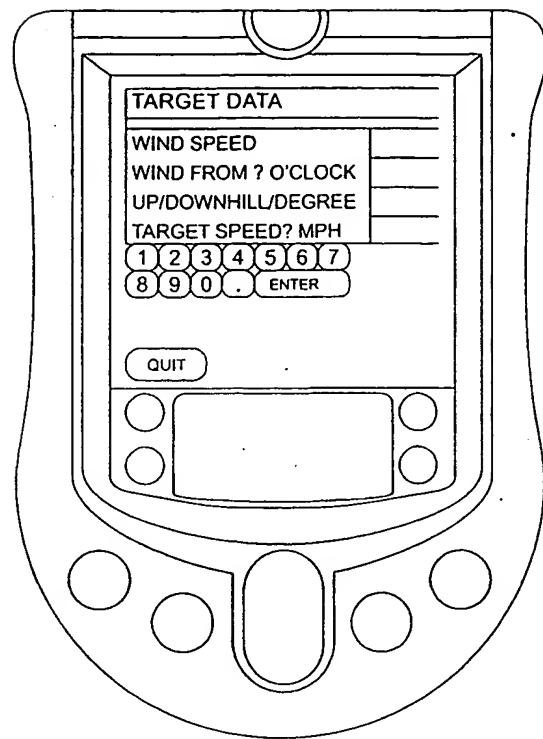


FIG. 18D

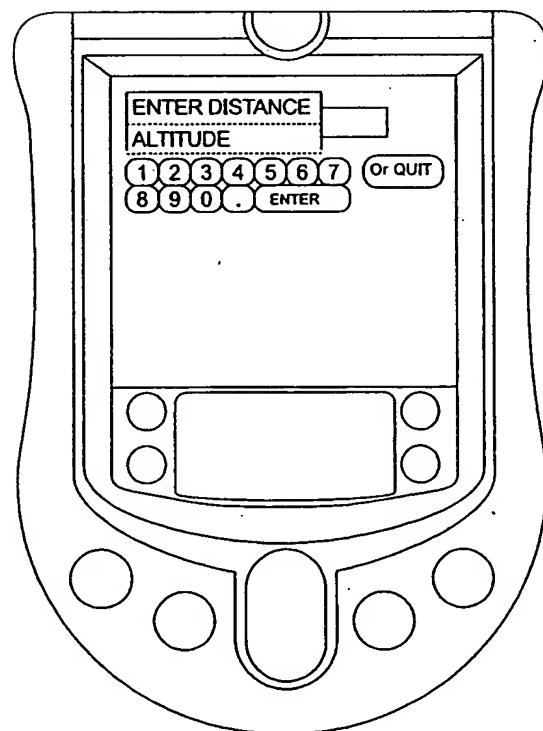


FIG. 18E

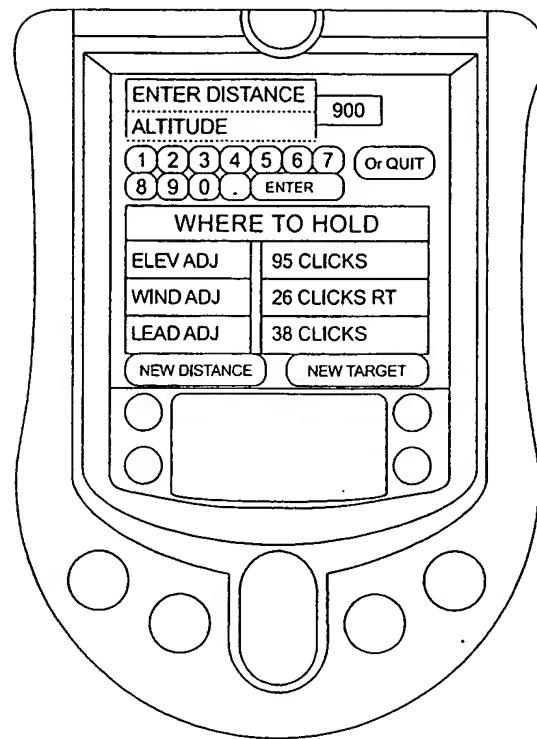


FIG. 18F

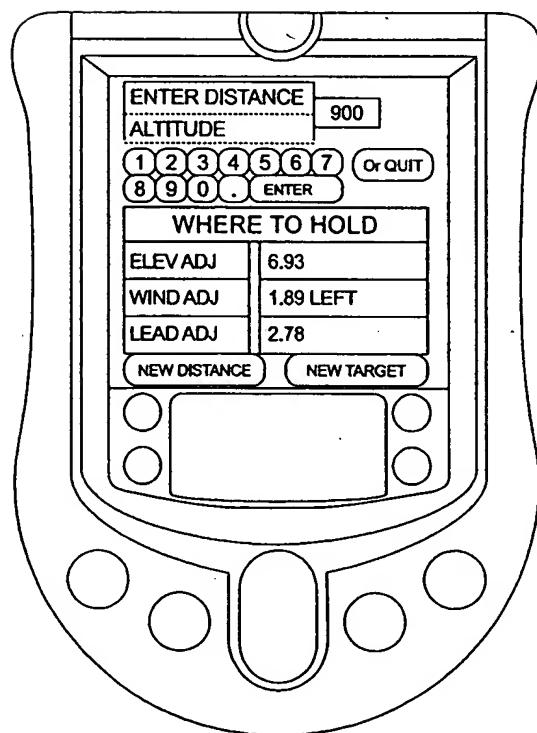


FIG. 18G

| ATrag1P    |          |         | ATrag2P               |          |         | Range Card |      |      |      |
|------------|----------|---------|-----------------------|----------|---------|------------|------|------|------|
| Gun        | Atmsphr  | Target  | Gun                   | Atmsphr  | Target  | Range      | Elev | Wind | Lead |
| BH 1.9     | WS 2     |         | BH 1.9                | WS 3     |         | 275        | 11.0 | 2.0  | 30.0 |
| BWt 190    | Tmp 59   | WD 4    | BWt 190               | Tmp 59   | WD 4    | 300        | 13.0 | 2.0  | 31.0 |
| C1 0.533   | BP 29.43 | IA 11   | C1 0.533              | BP 29.43 | IA 11   | 325        | 16.0 | 2.0  | 31.0 |
| MV 2900    | RH 78    | TS 2L   | MV 2900               | RH 78    | TS 4L   | 350        | 18.0 | 2.0  | 31.0 |
| ZR 100     |          | TR 1000 | ZR 100                |          | TR 1000 | 375        | 21.0 | 2.0  | 31.0 |
| Abs        |          |         | Rbs Rel Cur           |          |         | 400        | 23.0 | 3.0  | 32.0 |
| Elev       | 82       |         | Elev                  | 112U     | 112U    | 425        | 26.0 | 3.0  | 32.0 |
| Wind       | 0.4L     |         | Wind                  | 8R       | 8R      | 450        | 29.0 | 3.0  | 32.0 |
| Lead       | 1.4R     |         | Lead                  | 40L      | 40L     | 475        | 31.0 | 3.0  | 33.0 |
| Quit Horus |          |         | Clicks 4 Reset Update |          |         | 500        | 34.0 | 3.0  | 33.0 |
|            |          |         |                       |          |         | 525        | 37.0 | 3.0  | 33.0 |
|            |          |         |                       |          |         | 550        | 40.0 | 4.0  | 33.0 |

| Atmospheric Conditions         |        |      | Gun Information        |        |      | Target                 |        |  |
|--------------------------------|--------|------|------------------------|--------|------|------------------------|--------|--|
| Calc Method                    | AT TBH |      | Bore Height (inches)   | 1.9    |      | Wind Speed (mph)       | 2      |  |
| Temperature (F)                | 59     |      | Bullet Weight (grains) | 190    |      | Wind Direction (clock) | 4      |  |
| Barom. Pres. (in.mrc)          | 29.43  |      | C1 Coefficient         | 0.533  |      | Inclination Angle      | 11     |  |
| Relative Humidity (%)          | 78     |      | Muzzle Velocity (fps)  | 2900   |      | Target Speed (mph)     | 2      |  |
| Don't forget about the Decimal |        |      | Zero Range (yards)     | 100    |      | Target Range (yards)   | 1000   |  |
| 1 2 3 4 5 6 7 8 9 0 .          |        |      | 1 2 3 4 5 6 7 8 9 0 .  |        |      | 1 2 3 4 5 6 7 8 9 0 .  |        |  |
| Done                           | Cancel | Prev | Done                   | Cancel | Prev | Done                   | Cancel |  |
| Next                           | -      |      | Next                   |        | Next | Next                   |        |  |

| Mil Dot Range Finder   |        |            | Range Calc   |        |         | Gun List   |     |  |
|--|--------|------------|--|--------|---------|--|-----|--|
| When using WIDTH to size a target, Up/Dwn Angle does not effect range calculation but will effect bullet drop. |        |            | When using WIDTH to size a target, Up/Dwn Angle does not effect range calculation but will effect bullet drop. |        |         | SampleGun<br>WIN 308<br>WARBIRD<br>50 BMG<br>Custom Load<br>LarryGun |     |  |
| UsingTarget  | Height | Width      | UsingTarget  | Height | Width   | StoreSel   | New |  |
| Target Size  | 36     | in ft cm M | Target Size  | in     | ft cm M | Modify Sel   |     |  |
| MILs   | 1      |            | Ticks  | mil    | in moa  | Fetch Sel  |     |  |
| Angle  | 11     |            | Angle  |        |         | Delete Sel   |     |  |
| Range  | 982    | Y M        | Range  |        | Y M     | Cancel   |     |  |
| 1 2 3 4 5 6 7 8 9 0 .  |        |            | 1 2 3 4 5 6 7 8 9 0 .  |        |         | ◆  |     |  |
| Done   | Cancel | Prev       | Done   | Cancel | Prev    |  |     |  |
| Next   | -      |            | Next   |        |         |  |     |  |

| SampleGun01   |          |         | Target                 |        |                      | Gun Information        |                       |       |
|---------------|----------|---------|------------------------|--------|----------------------|------------------------|-----------------------|-------|
| Gun           | Atmsphr  | Target  | Latitude               | N S    | 33                   | Bore Height (inches)   | 1.9                   |       |
| BH 1.9        | WS 5     |         | Dir of fire from North |        | 88                   | Bullet Weight (grains) | 190                   |       |
| BWt 190       | Tmp 59   | WD 8    | Wind Speed (mph)       |        | 10                   | Bullet Diam (inches)   | 0.5                   |       |
| C1 0.533      | BP 29.43 | IA 0    | Wind Direction (clock) |        | 9                    | calibr                 |                       |       |
| MV 2900       | RH 78    | TS 0.0  | Inclination Angle      |        | 12                   | C1 Coefficient         | 0.533                 |       |
| ZR 100        |          | TR 1800 | Target Speed (mph)     | < 2    | Target Range (yards) | 2200                   | Rifle Twist (in/turn) | 8 R L |
| Hold Cor Spin |          |         | Target                 |        |                      | Muzzle Velocity (fps)  | 2900                  |       |
| Elev          | 27.15    | 0.130   | Latitude               |        |                      | Zero Range (yards)     | 100                   |       |
| Wind          | 1.18R    | 0.19L   | N S                    |        |                      | 1 2 3 4 5 6 7 8 9 0 .  |                       |       |
| Lead          | 0.0      |         | 33                     |        |                      | Done                   | Cancel                |       |
| GunList       | Horus    | Norm    | 88                     |        |                      | Prev                   | Next                  |       |
|               |          |         | 10                     |        |                      |                        |                       |       |
|               |          |         | 9                      |        |                      |                        |                       |       |
|               |          |         | 12                     |        |                      |                        |                       |       |
|               |          |         | Target                 |        |                      |                        |                       |       |
|               |          |         | Target Speed (mph)     |        |                      |                        |                       |       |
|               |          |         | Target Range (yards)   |        |                      |                        |                       |       |
|               |          |         | 1 2 3 4 5 6 7 8 9 0 .  |        |                      |                        |                       |       |
|               |          |         | Done                   | Cancel |                      |                        |                       |       |
|               |          |         | Prev                   |        |                      |                        |                       |       |
|               |          |         | Next                   |        |                      |                        |                       |       |

FIG. 18H

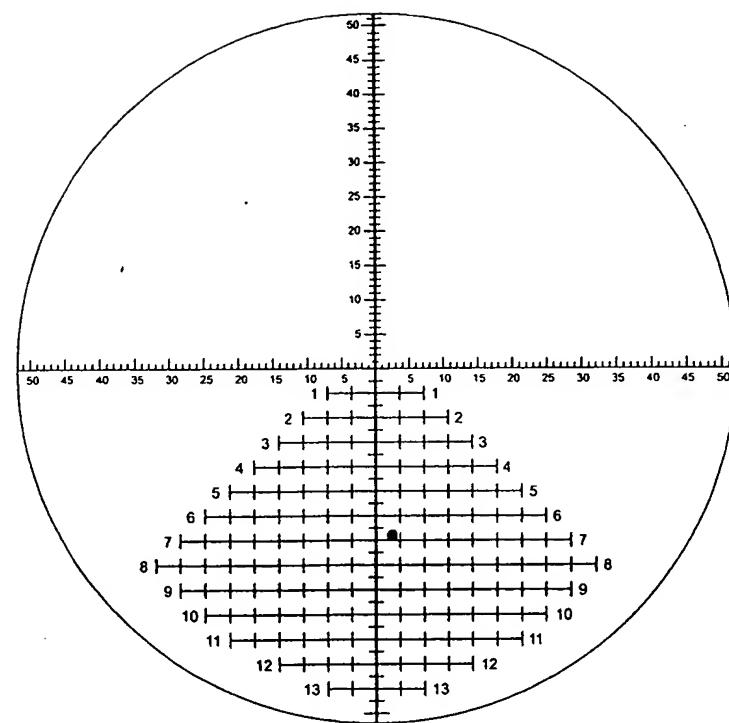


FIG. 19A

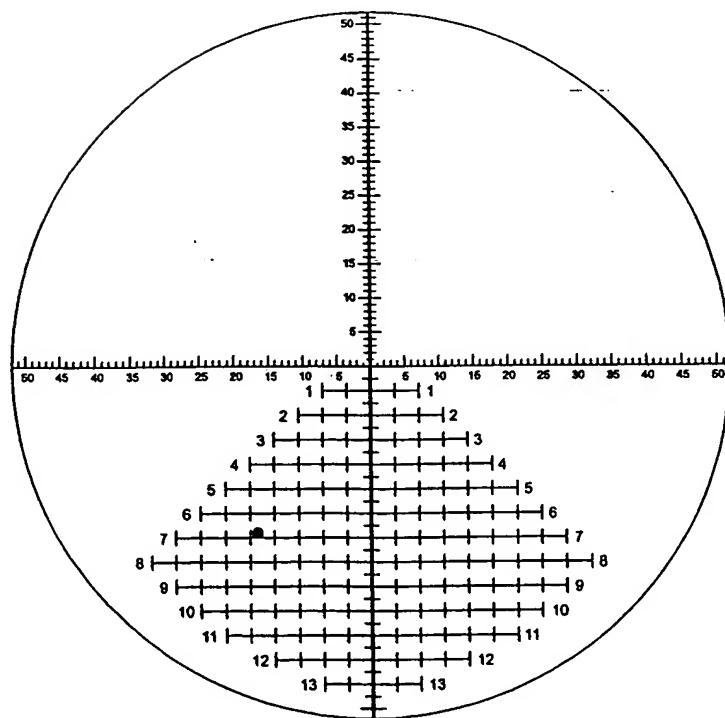


FIG. 19B

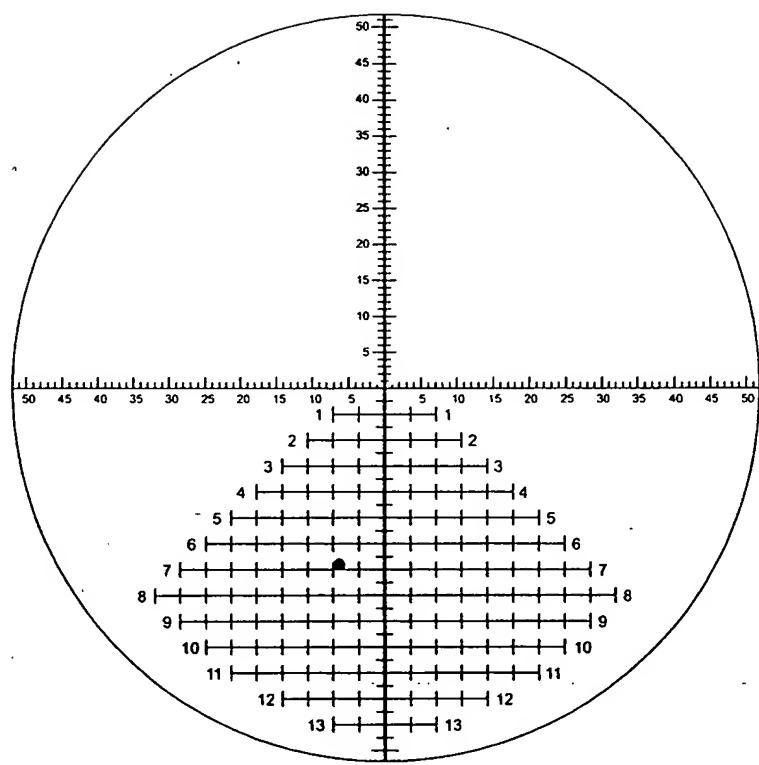


FIG. 19C

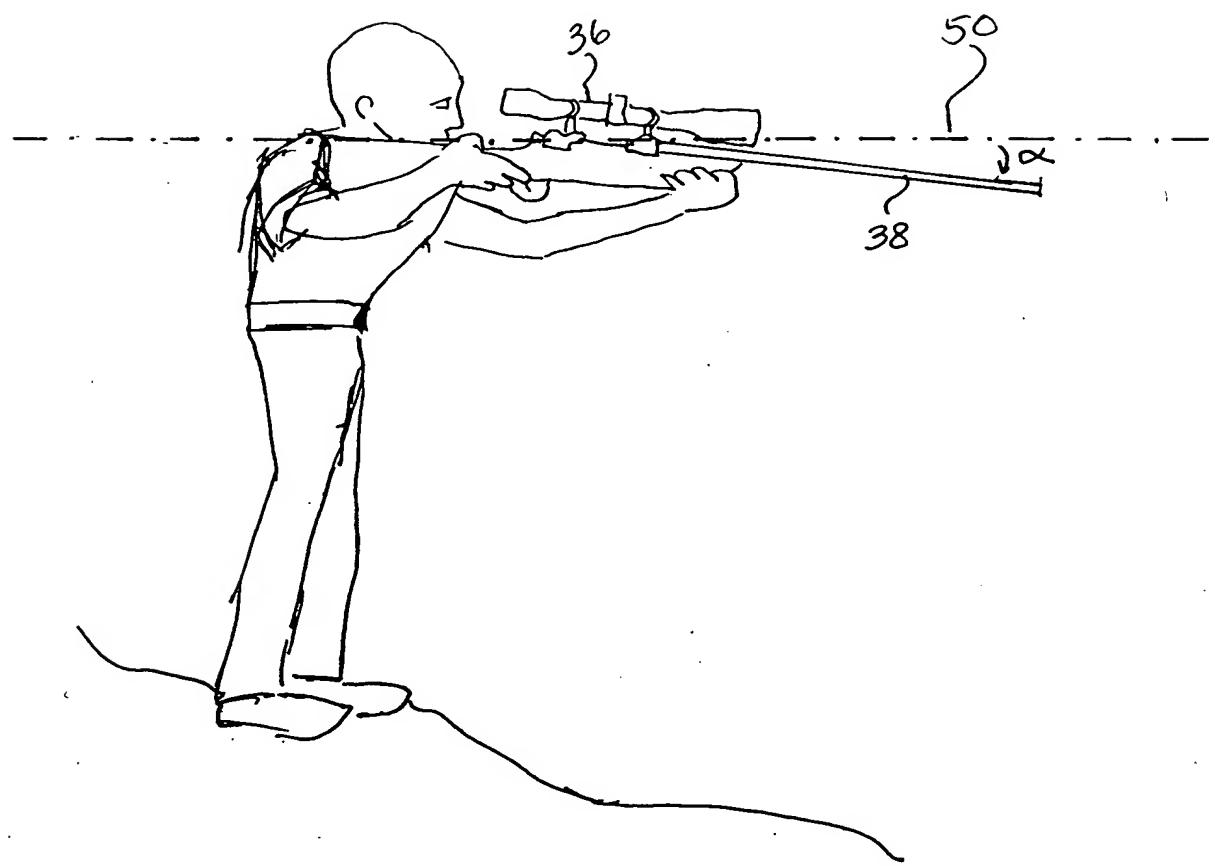


FIG. 20

FIG. 21

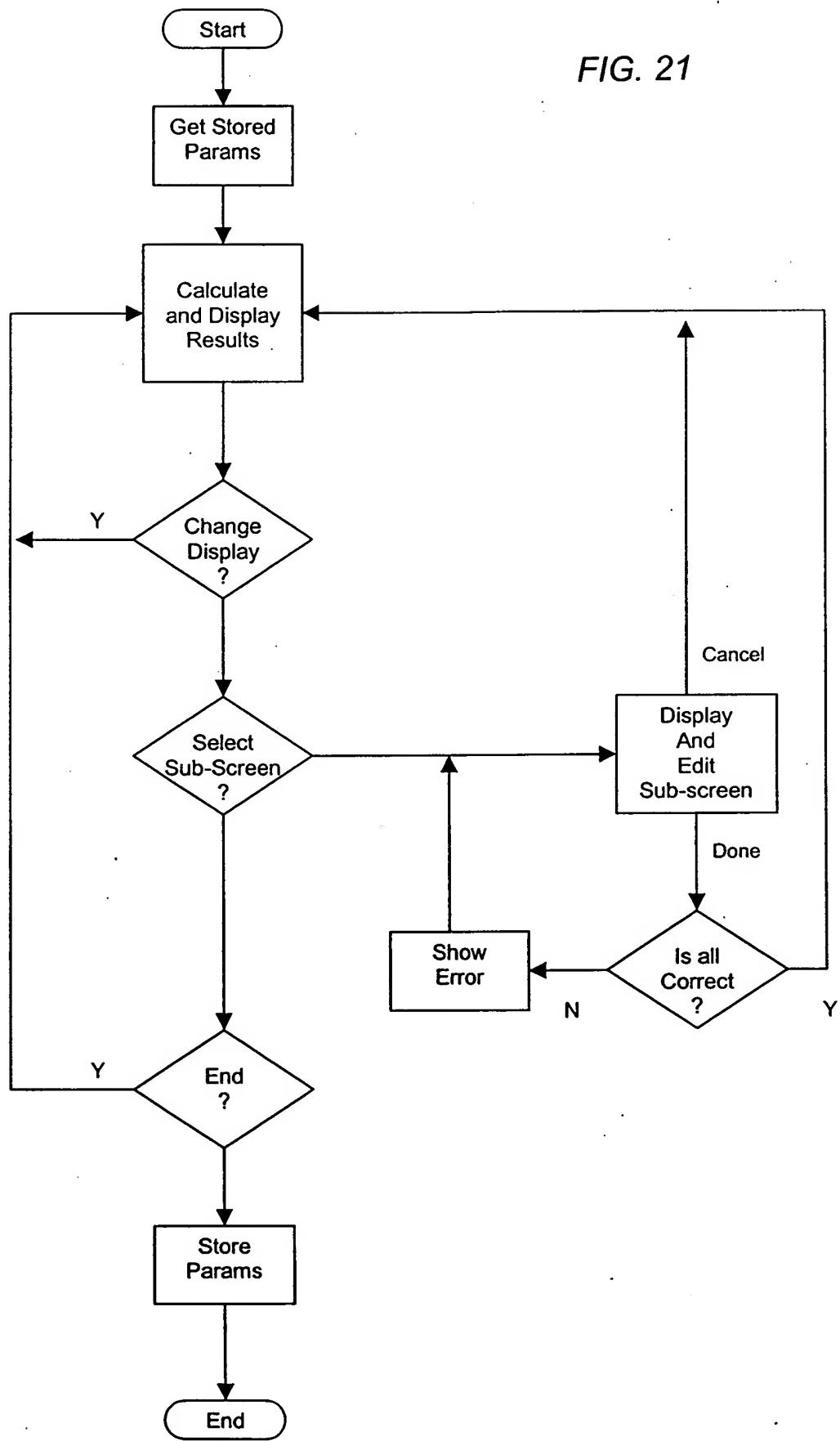
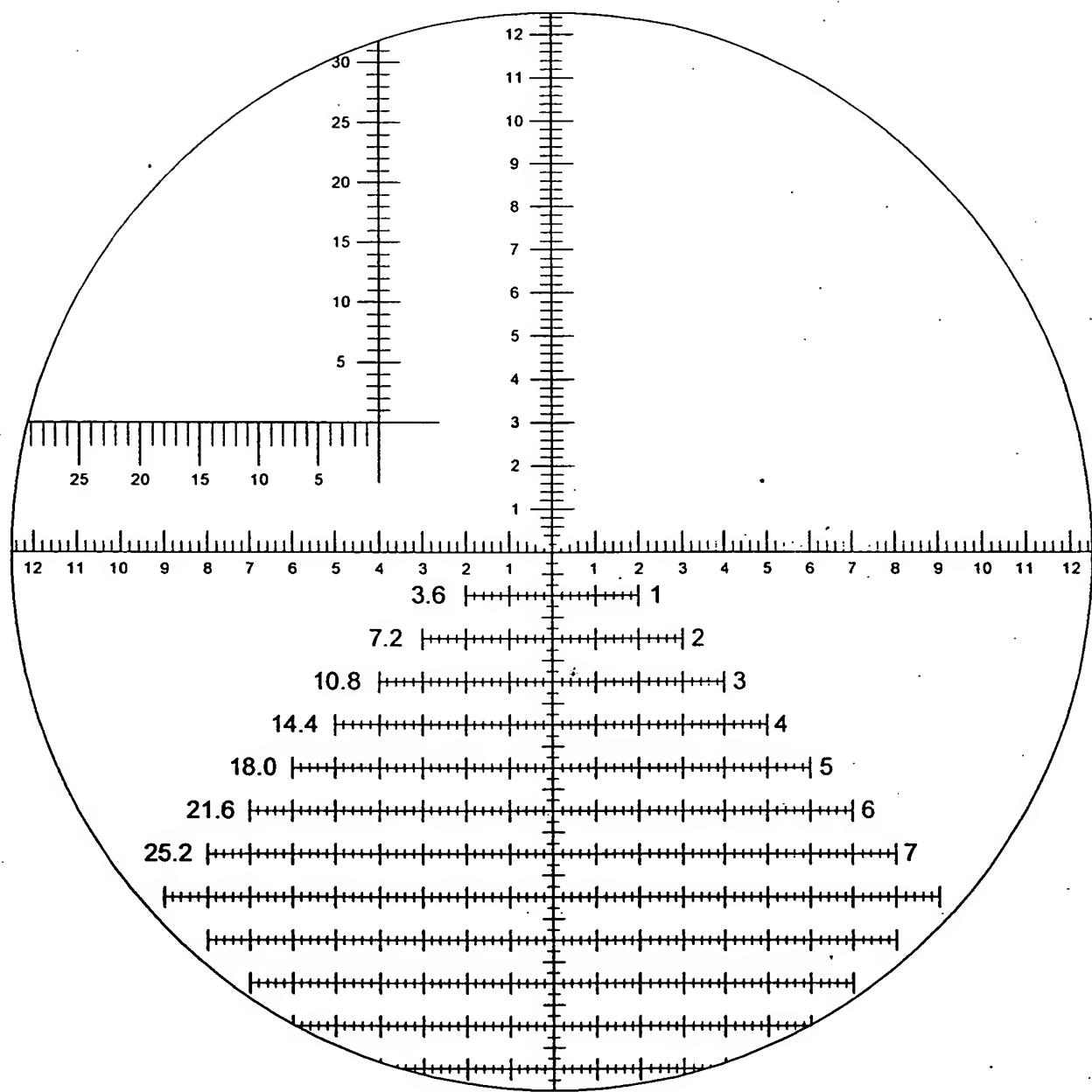
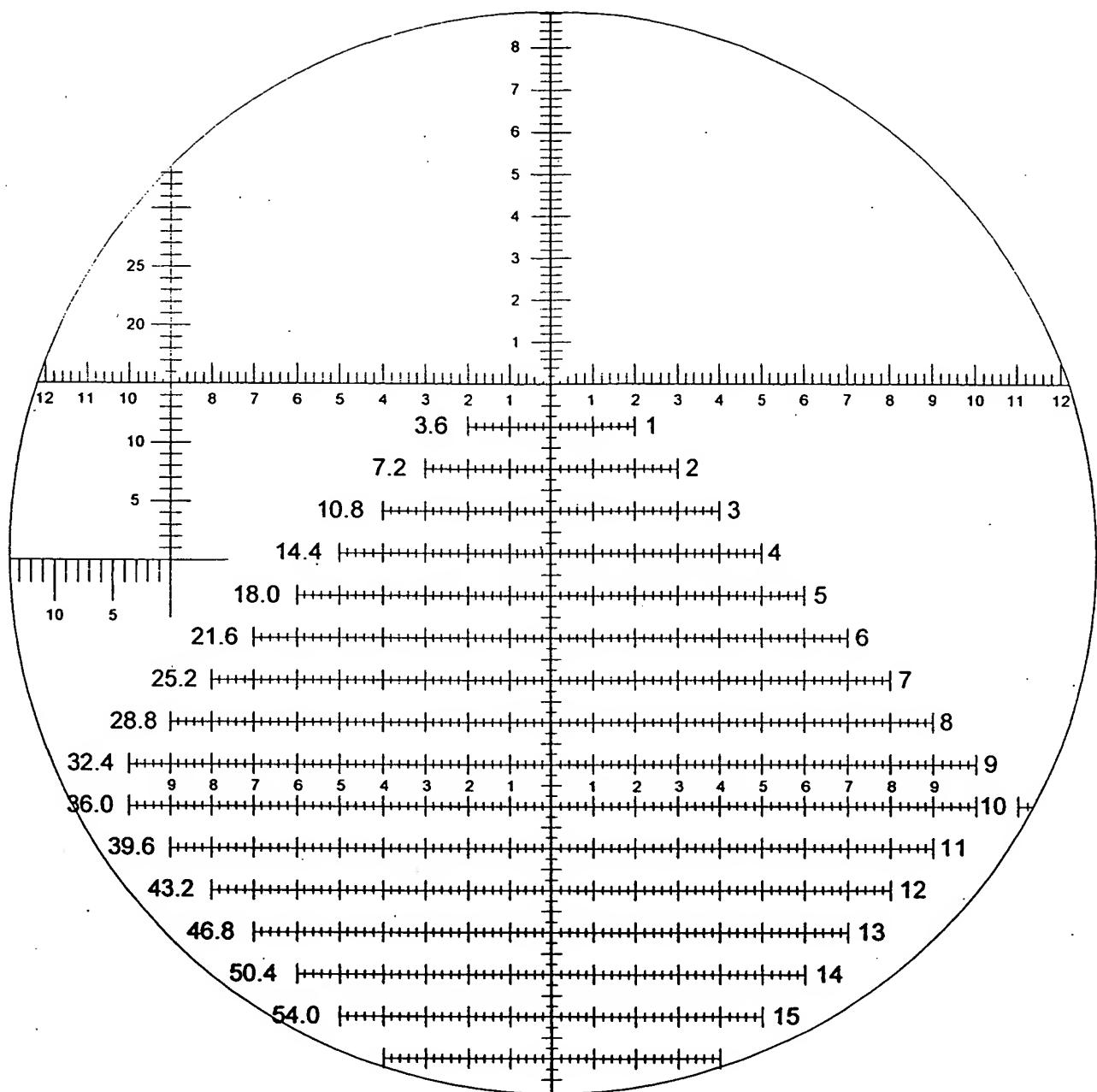


FIG. 22



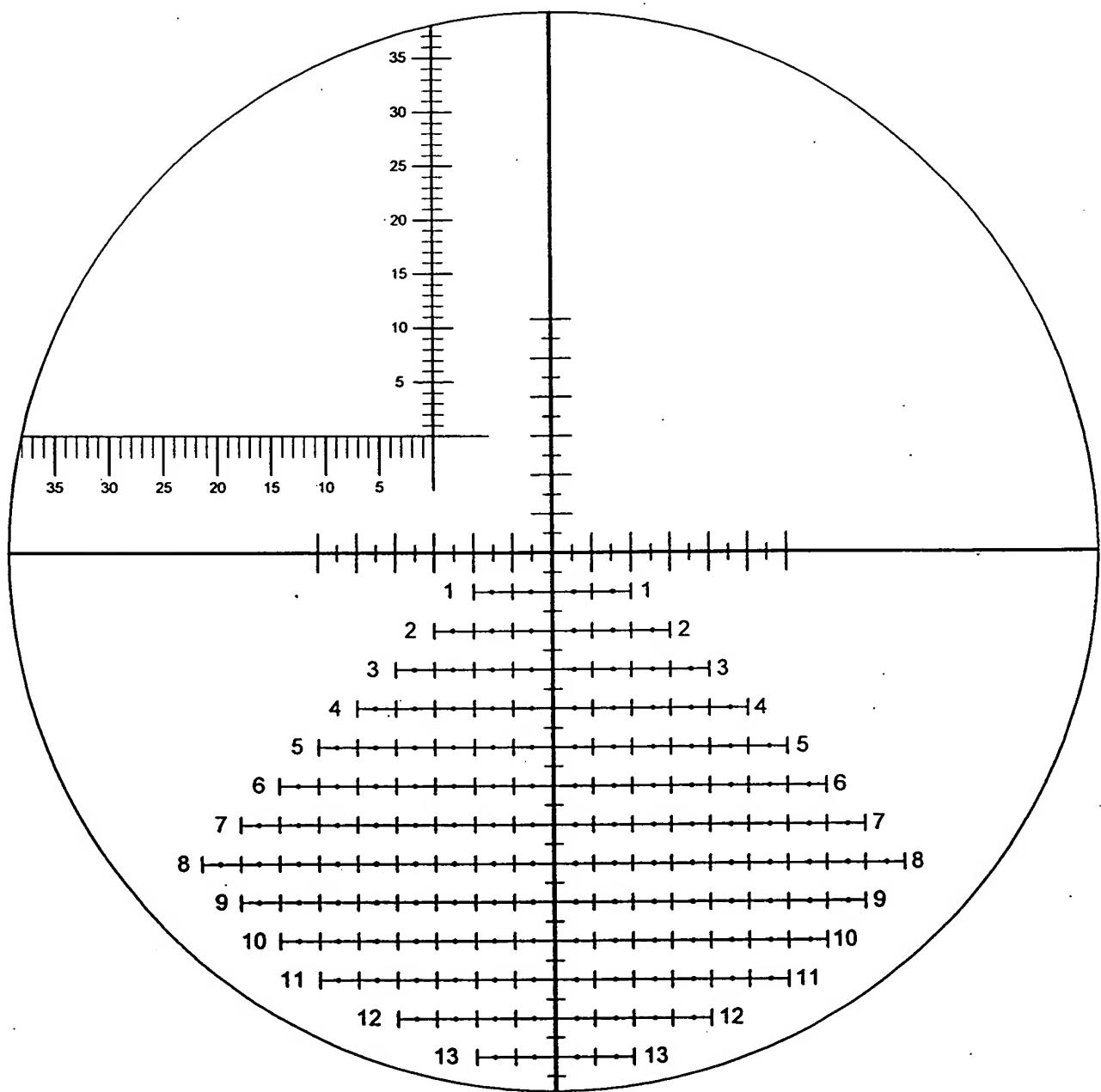
H-1

FIG. 23



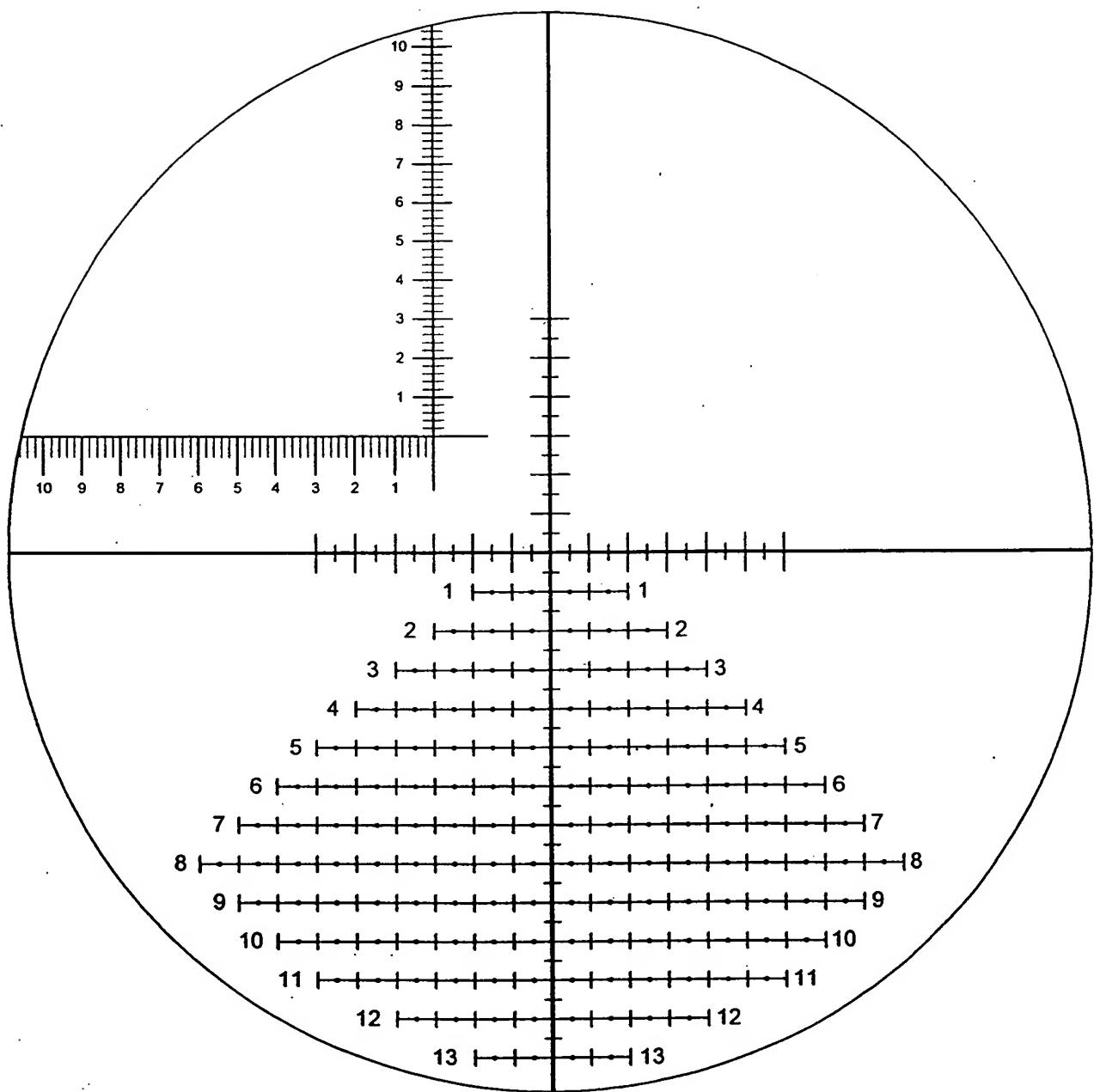
H-2

FIG. 24



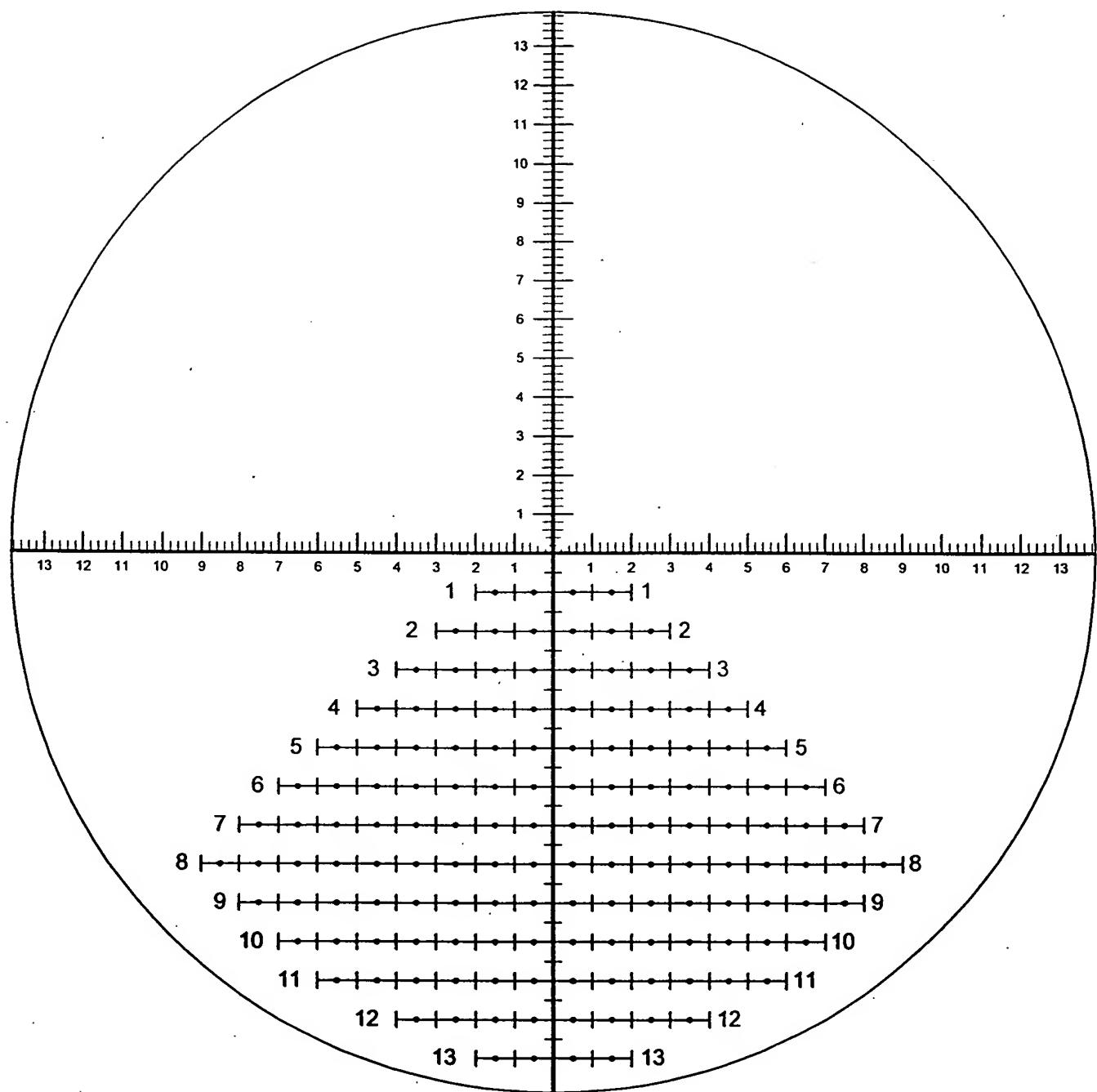
H-3

FIG. 25



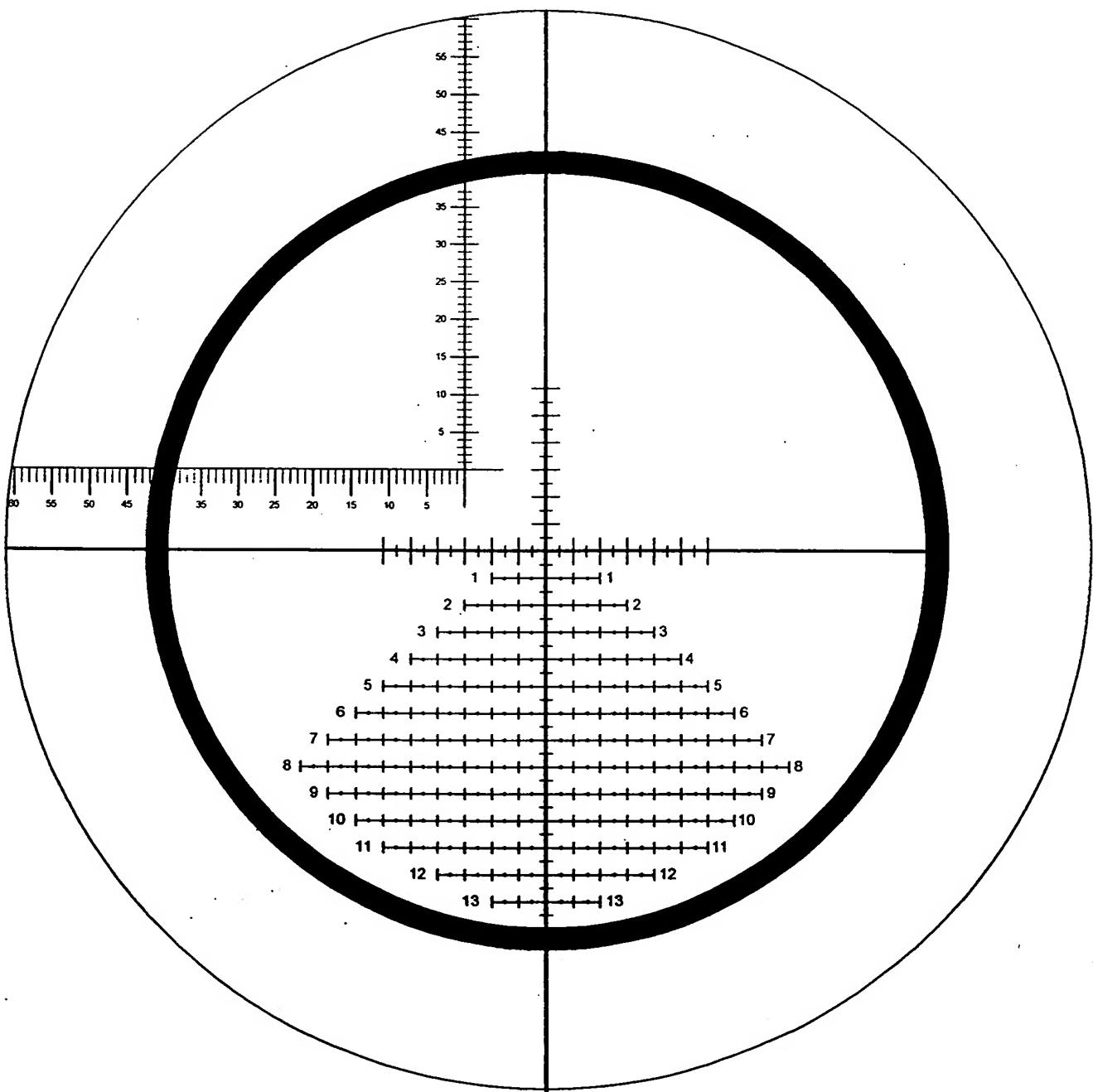
H-4

FIG. 26



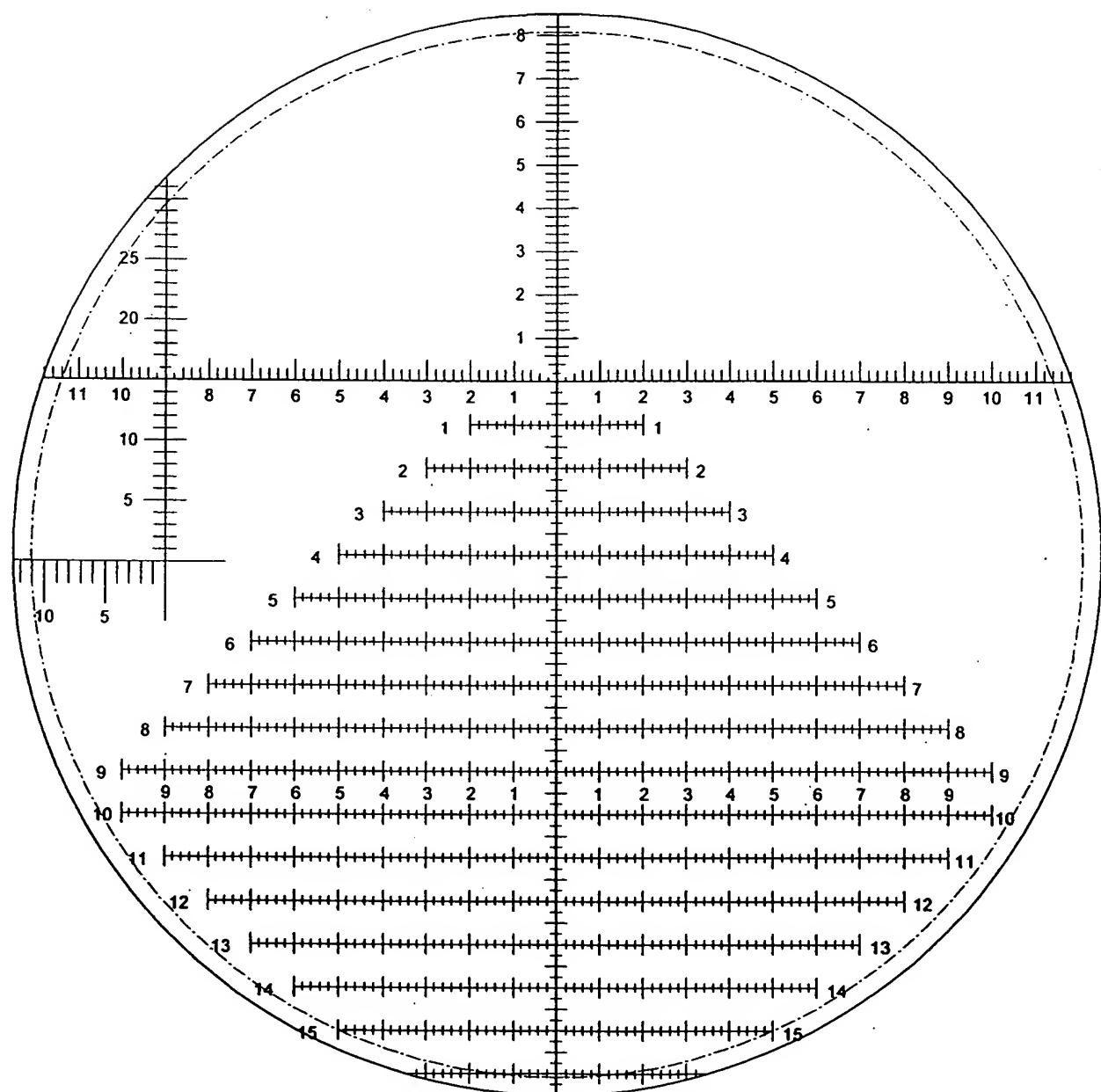
H-5

FIG. 27



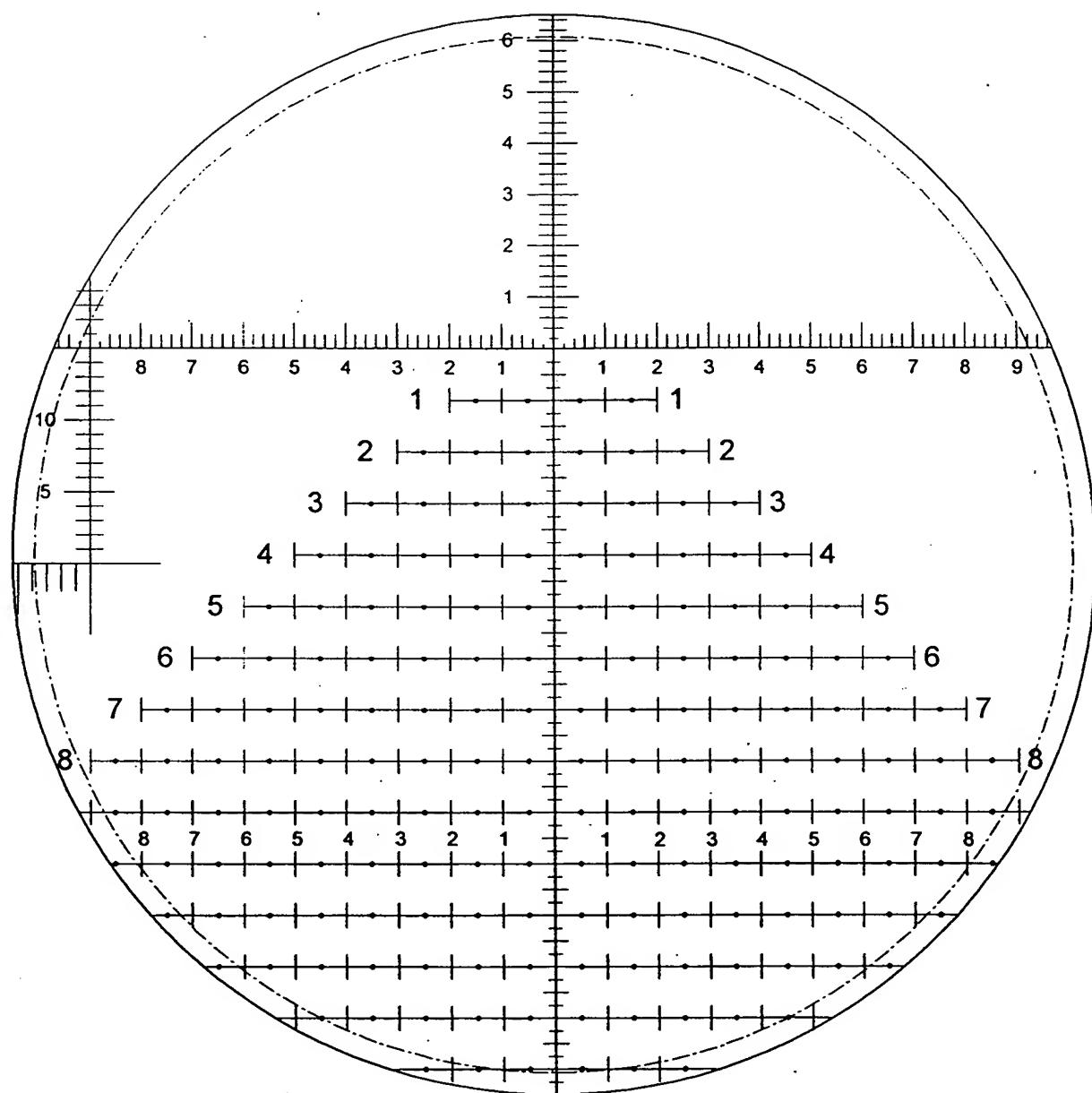
H-6

FIG. 28



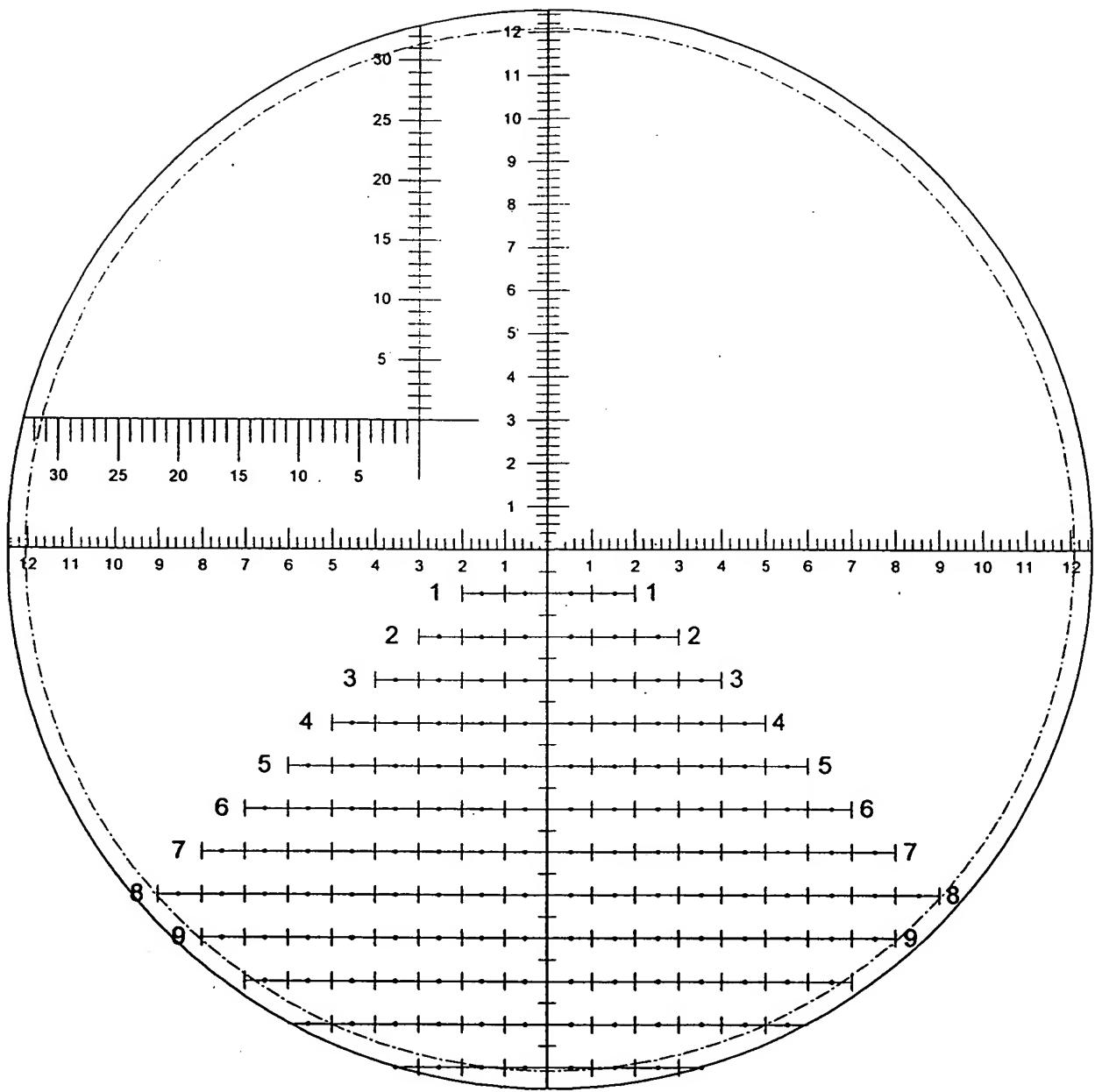
H-11

FIG. 29



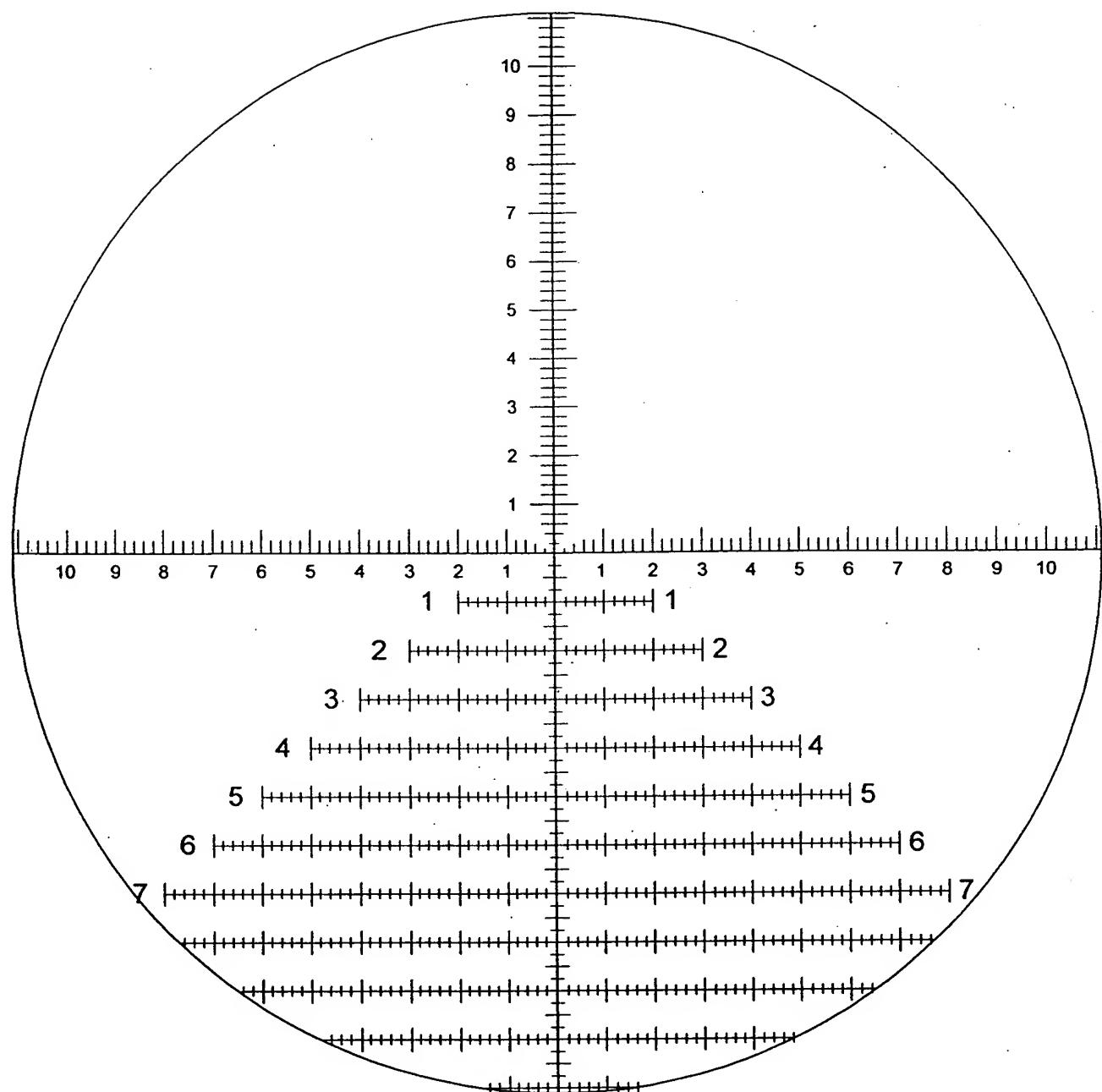
H-12

FIG. 30



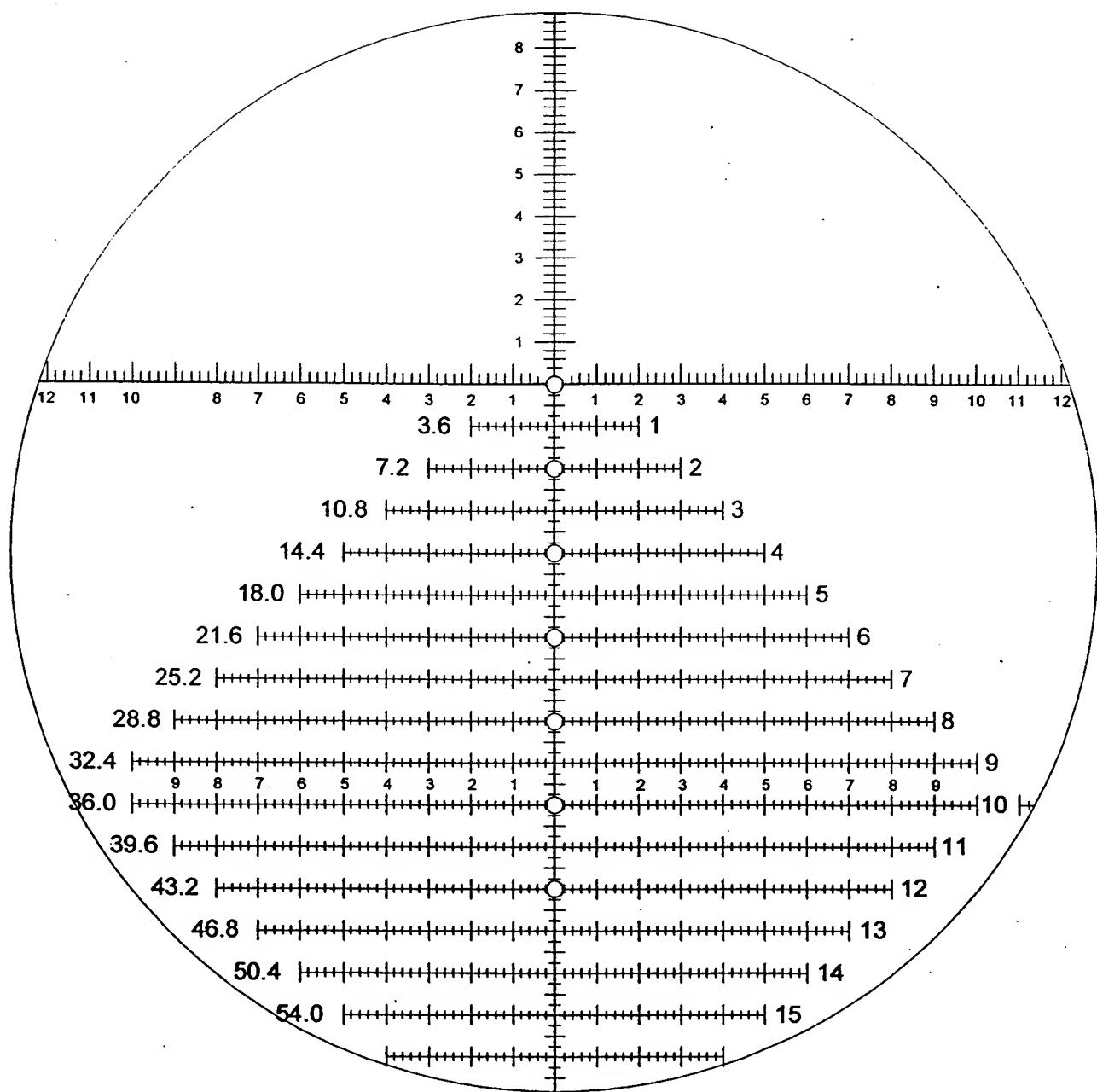
H-13

FIG. 31



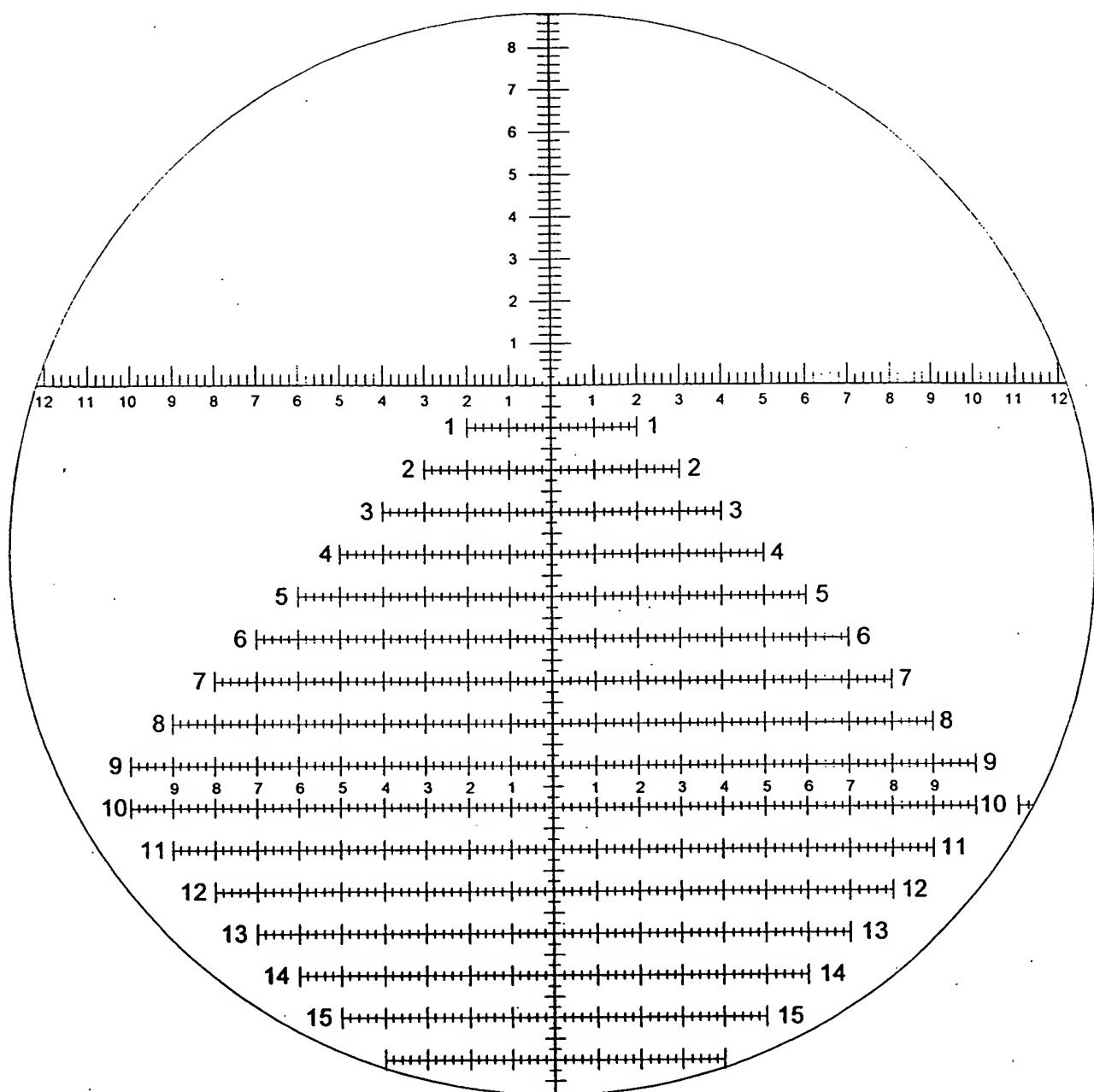
H-14

FIG. 32



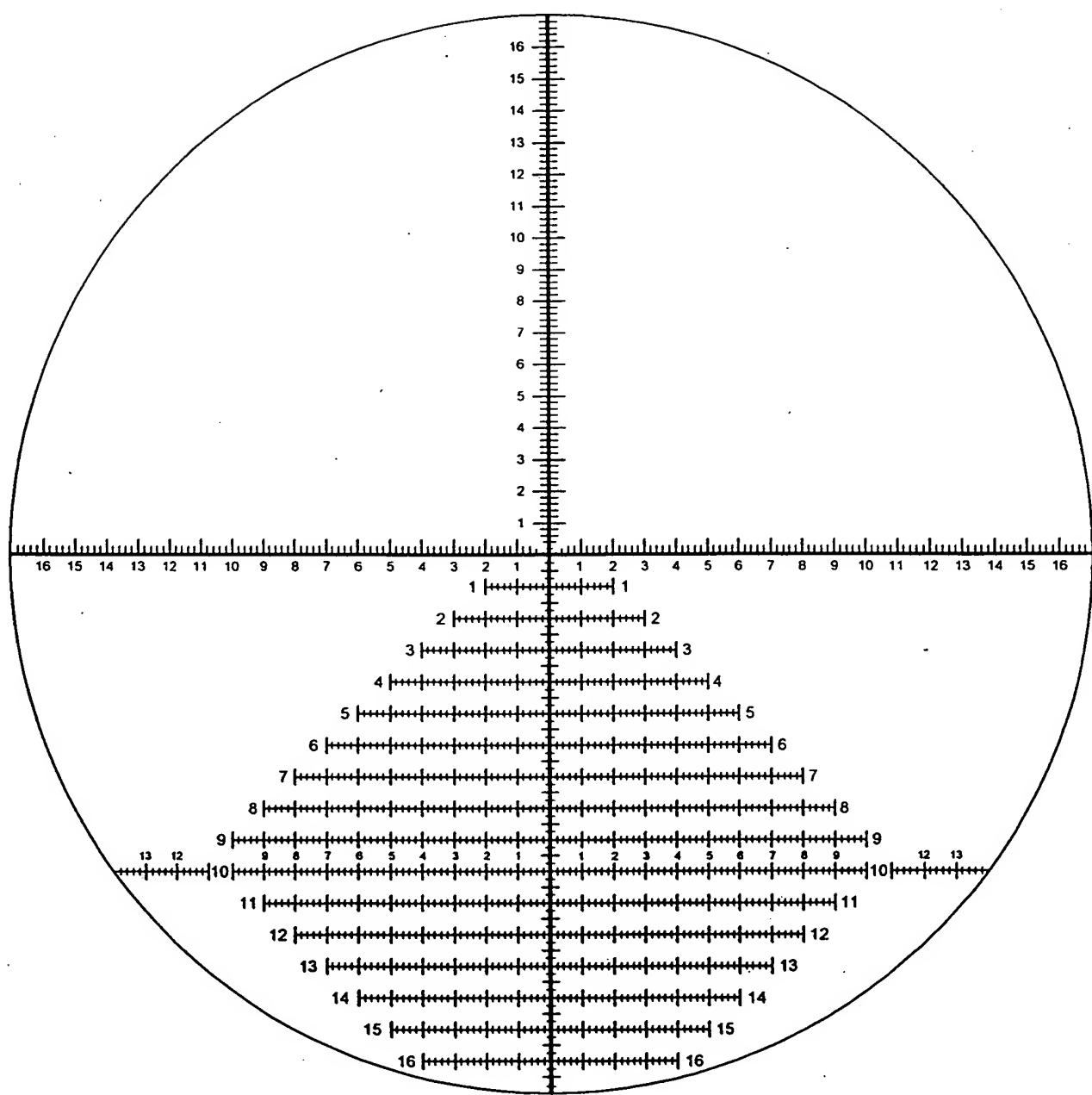
H-15

FIG. 33



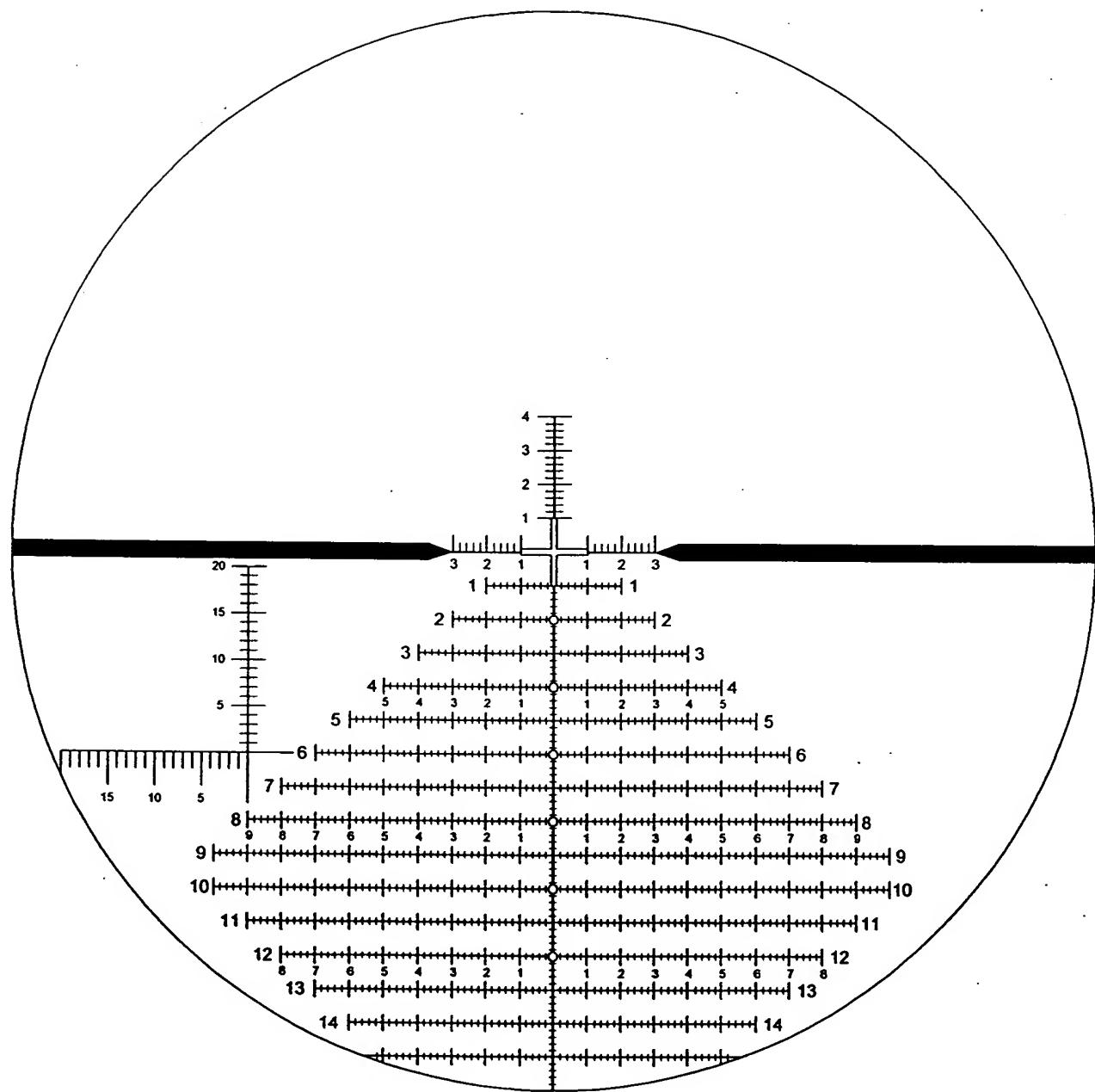
H-19

FIG. 34



H-21

FIG. 35



H-25

FIG. 35a

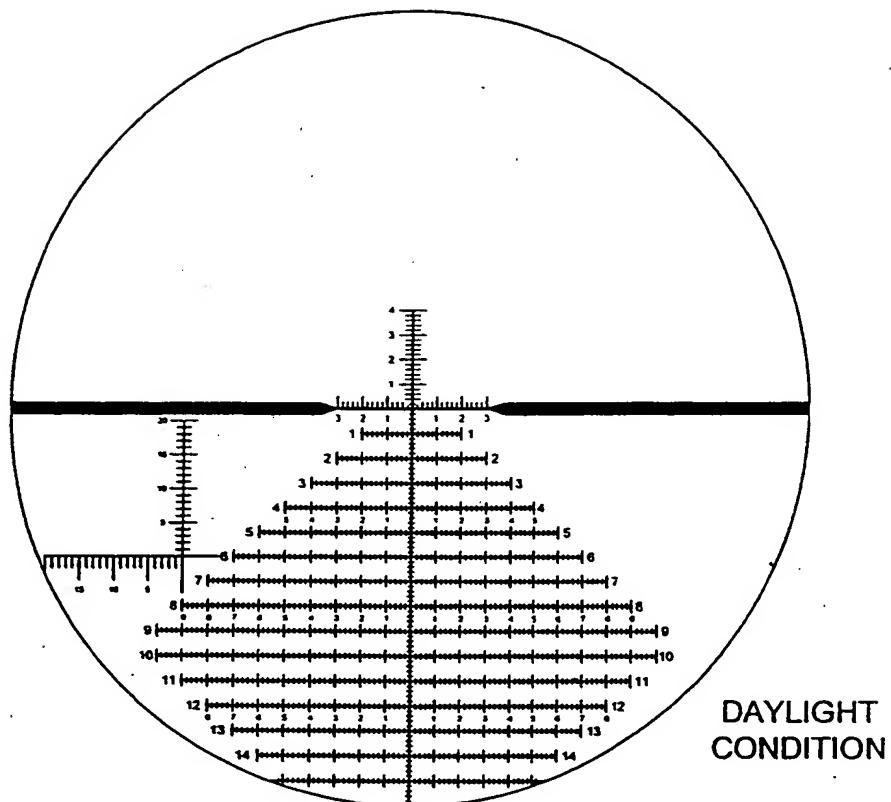


FIG. 35b

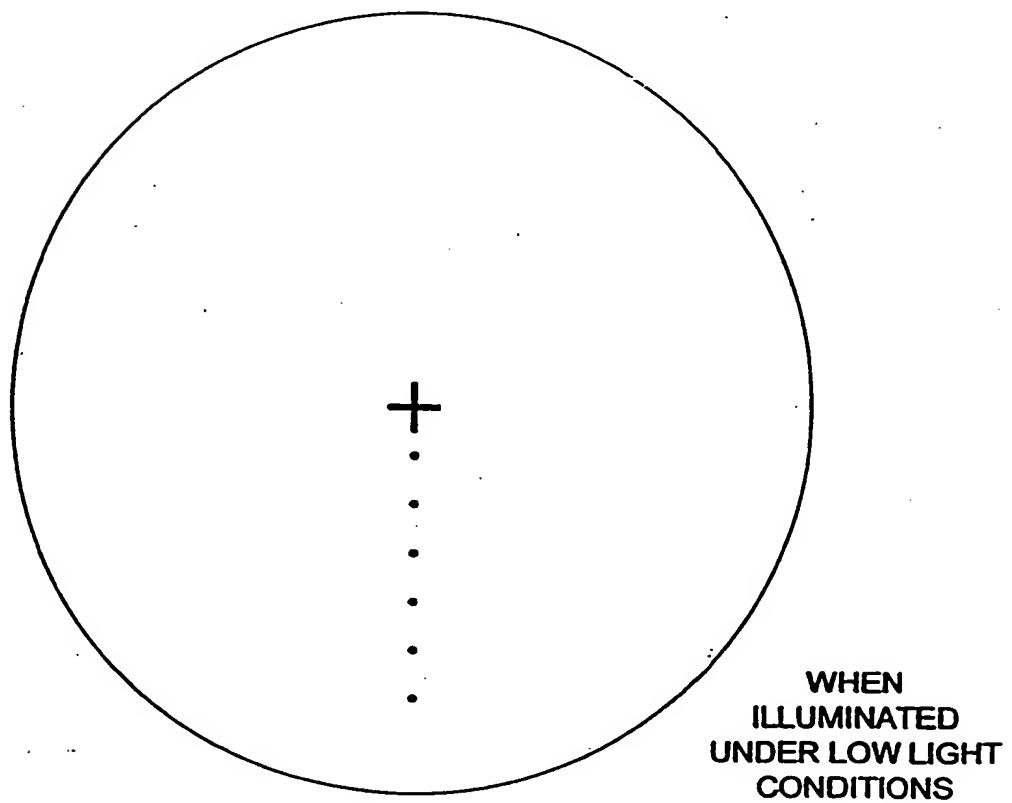
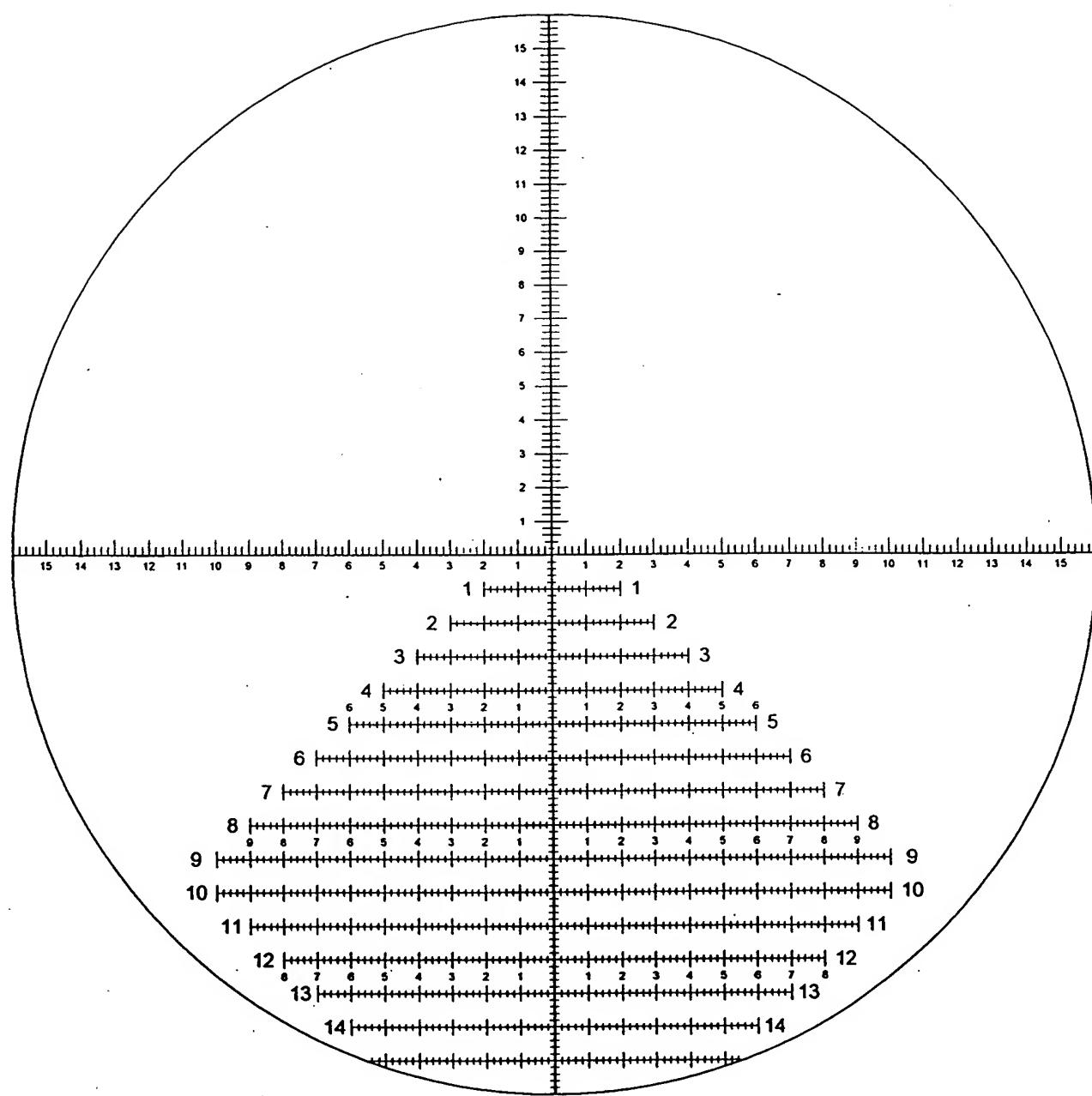
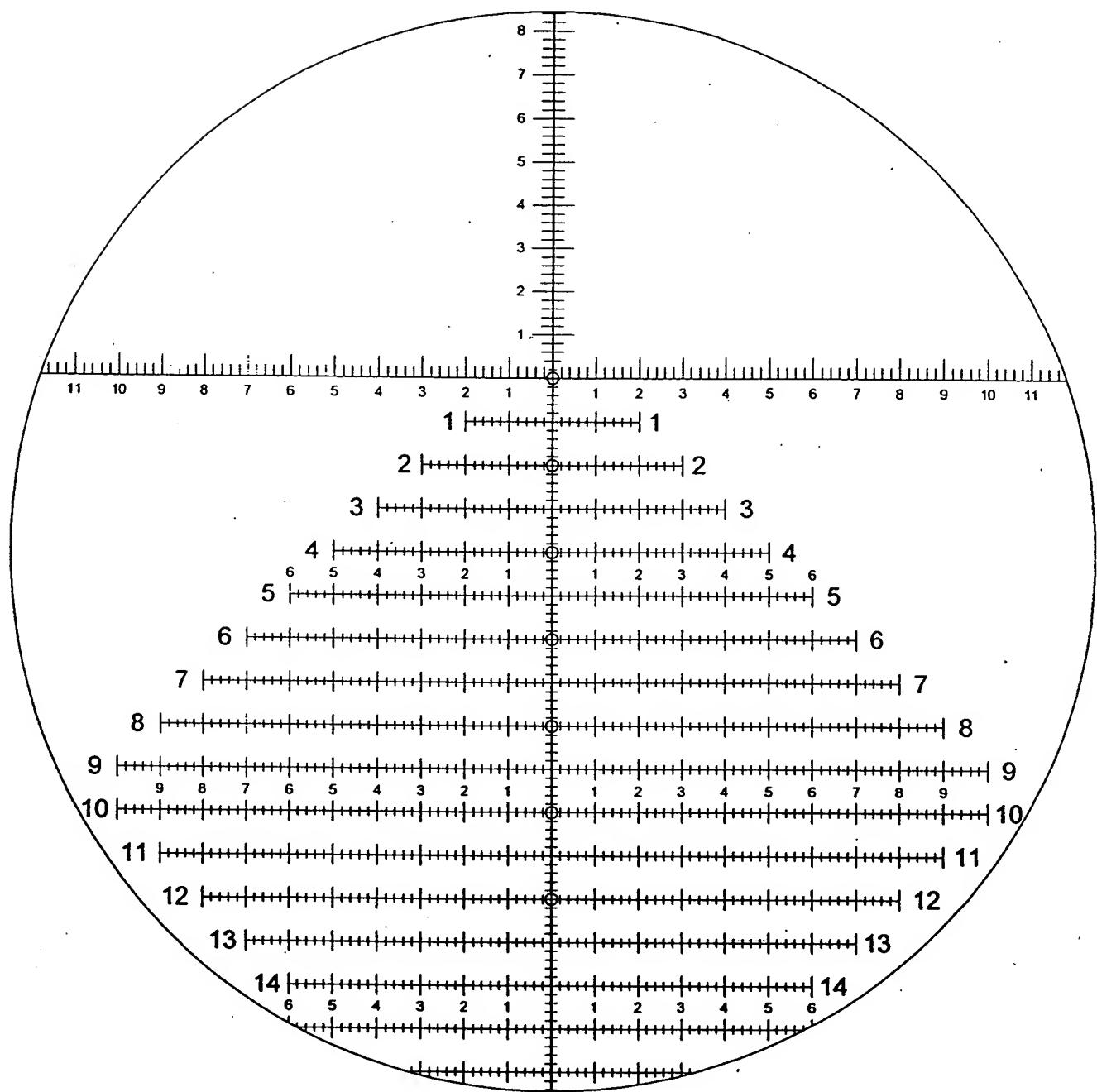


FIG. 36



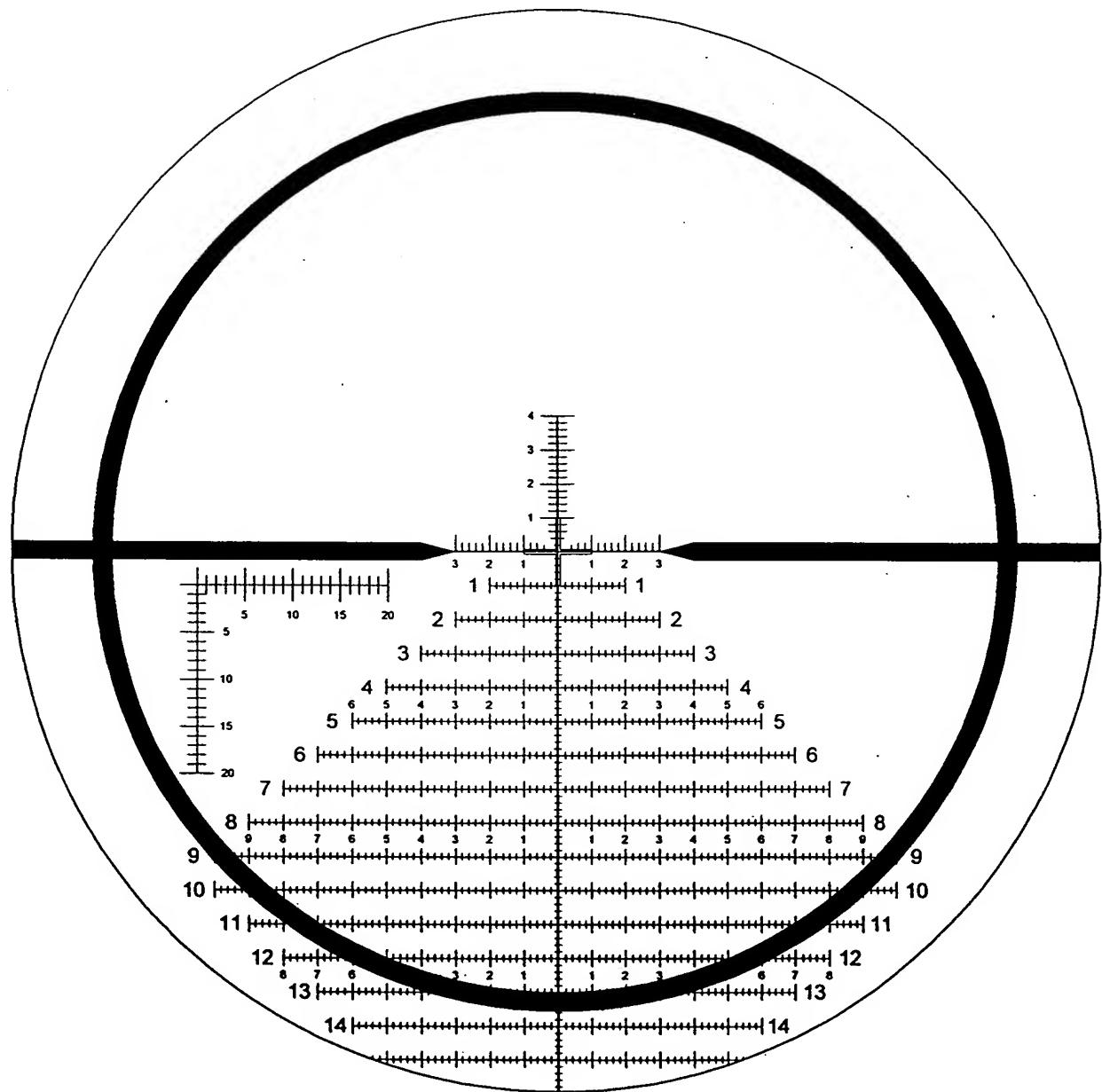
H-31

FIG. 37



H-39

FIG. 38



H-45

Calibrated in USMC Milradians

FIG. 39a

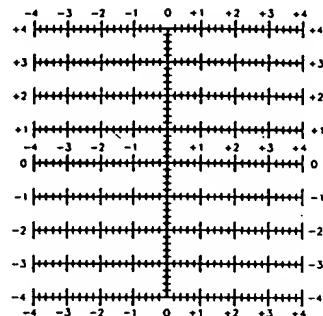


FIG. 39b

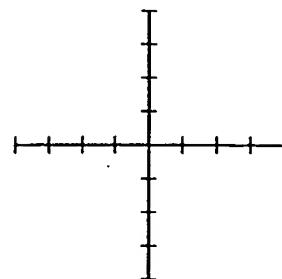


FIG. 39c

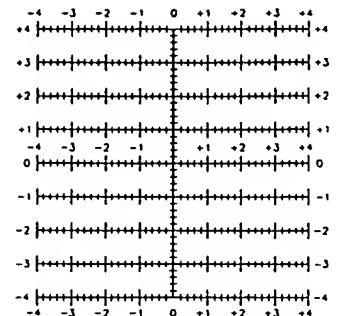
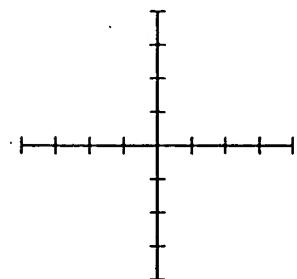


FIG. 39d



Reticle can be used in 1st or 2nd plane.

Calibrated in True MOA

FIG. 39e

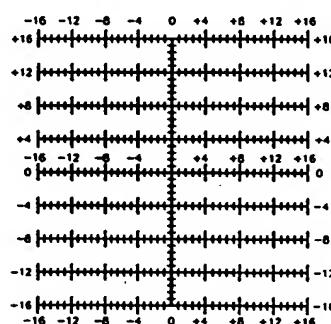


FIG. 39f

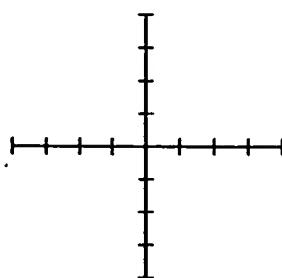


FIG. 39g

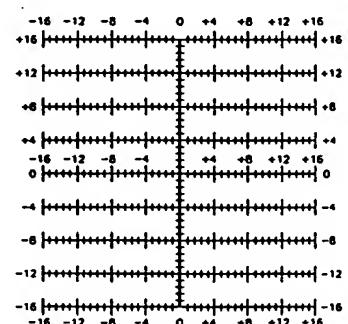
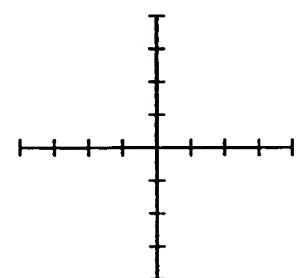
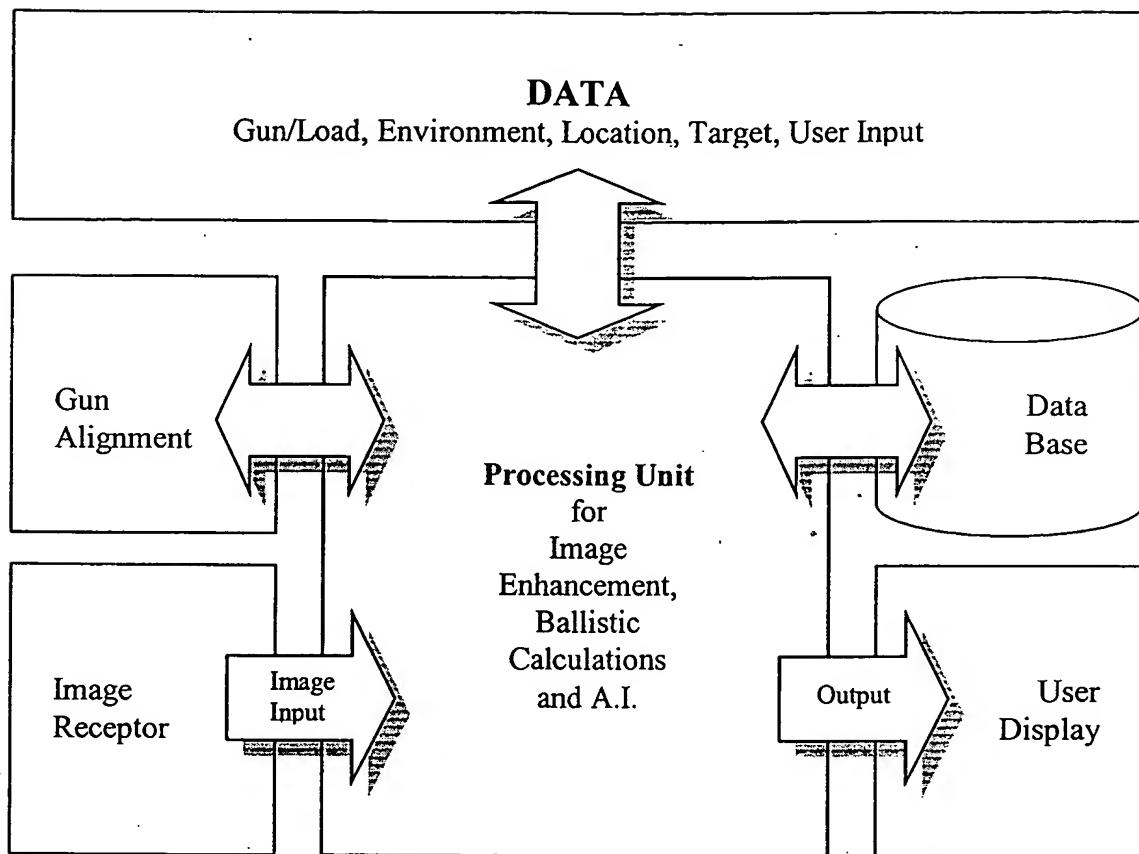


FIG. 39h





*FIG. 40*

FIG. 41a

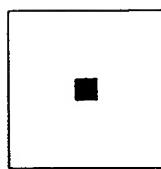


FIG. 41b

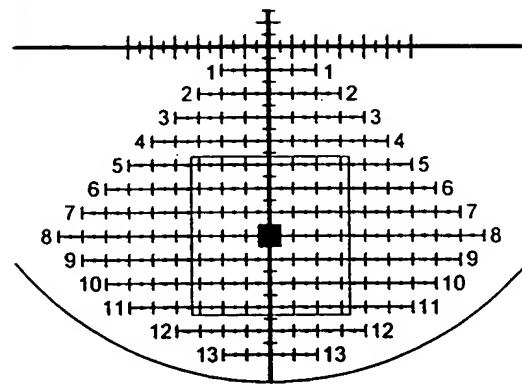


FIG. 41c

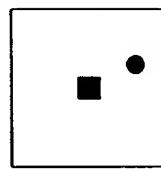


FIG. 41d

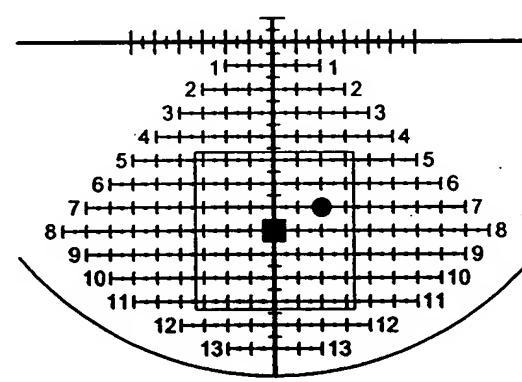


FIG. 41e

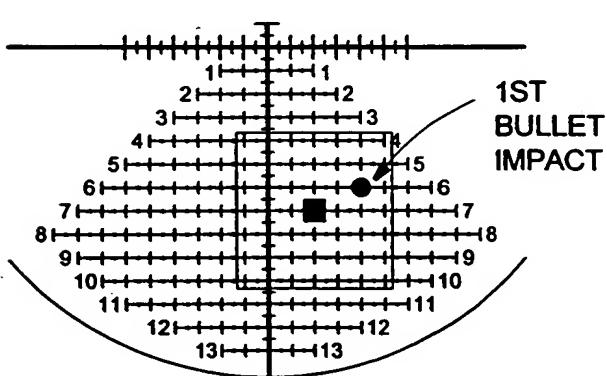


FIG. 41f

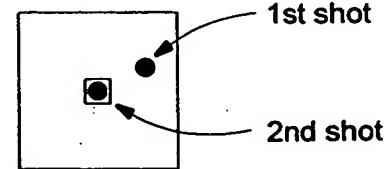
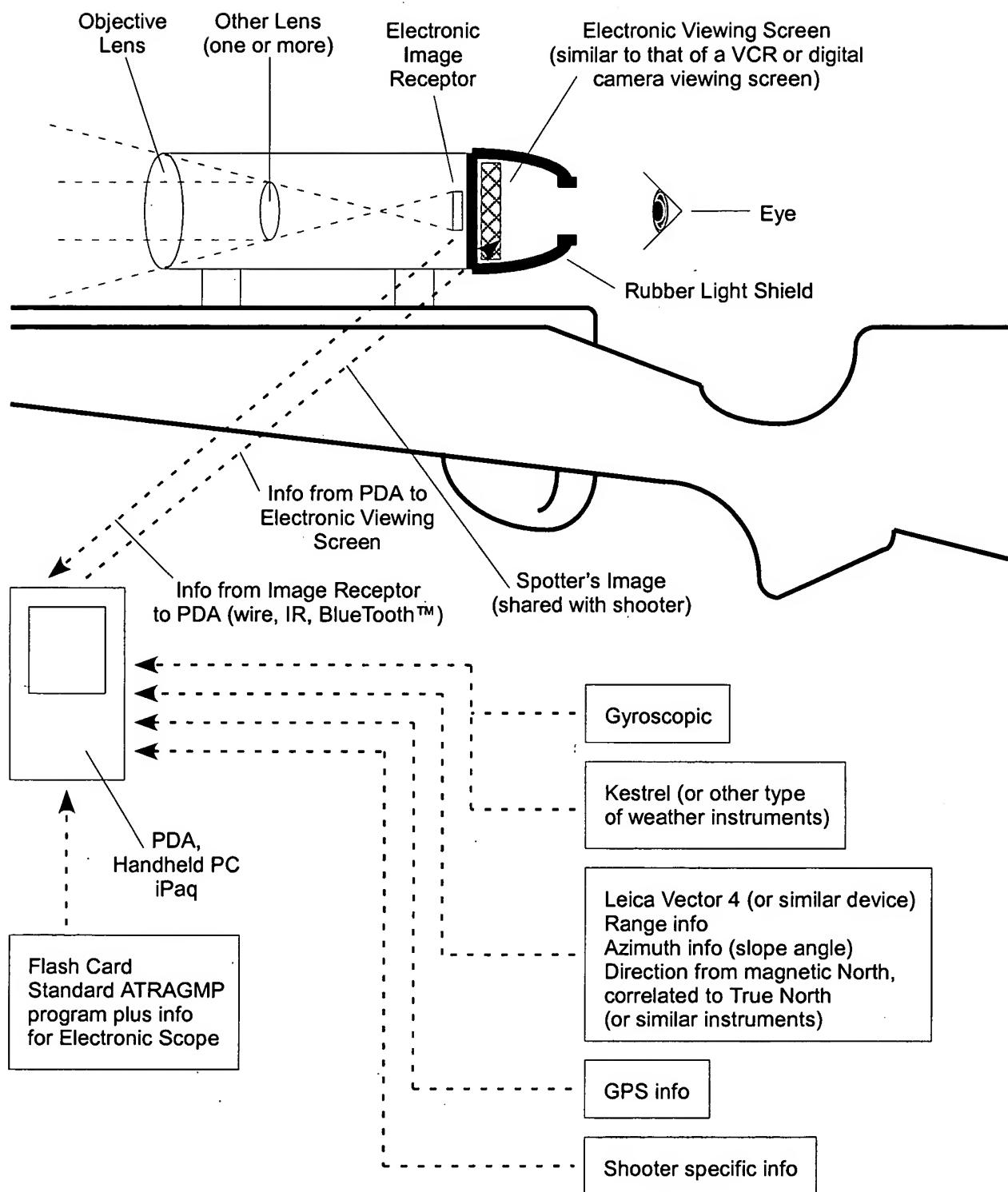


FIG. 42

Overview



## Electronic Target Acquisition Device

FIG. 43a

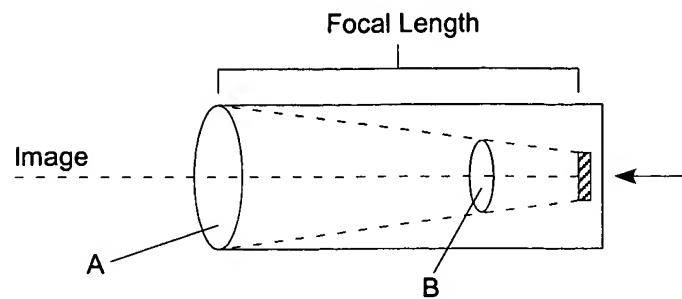


FIG. 43b

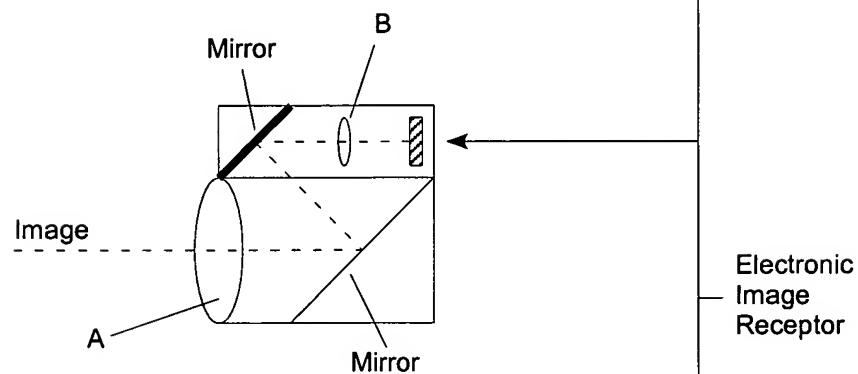
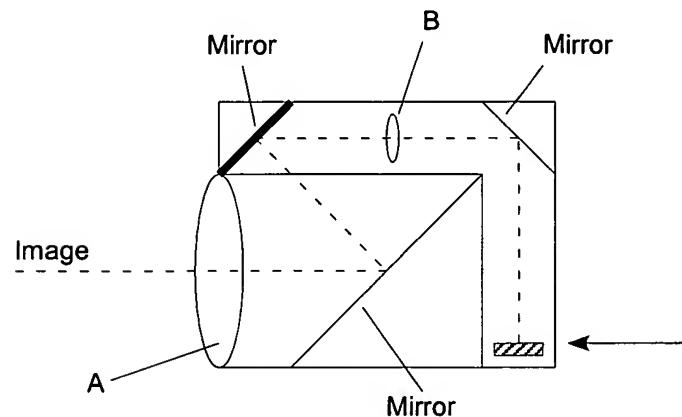


FIG. 43c



A = Objective lens

B = Additional lenses (one or more)

FIG. 43a = Full focal length (long length tube)

FIG. 43b & FIG. 43c = Mirrors or prisms to reduce scope length